# Растворители для газовой хроматографии GC, химикаты для жидкостной хроматографии GP, HP

## Технические характеристики

Виды товаров: 1-пропанол, 2-пропанол, ацетон, ацетонитрил, бензол класс, циклогексан, дихлорметан, этилацетат, метанол класса, n,n-диметилформамид, бутанол, толуол, 1-пропанол, уксусная кислота, ацетон, ацетонитрил, градиент ацетонитрила, ацетонитрил, ацетат аммония, тетрахлорид углерода, хлороформ, моногидрат лимонной кислоты, циклогексан, дихлорметан, дикалийгидроортофосфат, дигидрат ортофосфата натрия, этилацетат, изобутилметилкетон, метанол, метилацетат, n,n-диметилформамид, н-бутилхлорид , н-гептан, н-гексан, ортофосфорная кислота, бромид калия, ацетат натрия безводный, хлорид натрия, дигидрат ортофосфата натрия, гидрокарбонат натрия, трет-бутанол, тетрахлорэтилен, тетрагидрофуран, трихлорэтилен, вода для вэжх и спектроскопии и др.


По вопросам продаж и поддержки обращайтесь:

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Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
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Оренбург (3532)37-68-04
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Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
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Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
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Череповец (8202)49-02-64
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# Gas Chromatography Solvents


| CODE | PRODUCT NAME | CAS NO. |
|---|---|---|
| GC0710 | 1-Propanol GC grade | 71-23-8 |
| GC0700 | 2-Propanol GC grade | 67-63-0 |
| GC0005 | Acetone GC grade | 67-64-1 |
| GC0010 | Acetonitrile GC grade | 75-05-8 |
| GC0100 | Benzene GC grade | 71-43-2 |
| GC0200 | Cyclohexane GC grade | 110-82-7 |
| GC0300 | Dichloro Methane GC grade | 75-09-2 |
| GC0500 | Ethyl Acetate GC grade | 141-78-6 |
| GC0600 | Methanol GC grade | 67-56-1 |
| GC0410 | N,N-Dimethyl Acetamide GC grade | 127-19-5 |
| GC0421 | N,N-Dimethyl Formamide GC grade | 68-12-2 |
| GC0110 | n-Butanol GC grade | 71-36-3 |
| GC0800 | Toluene GC grade | 108-88-3 |

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | 1-Propanol GC grade |
| **Cat No.** | GC0710 |
| **CAS-No.** | 71-23-8 |
| **M.W.** | 60.10 |
| **EC-No.** | |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 71-23-8 |
| **Percent** | >99.9% |
| **Substance/Mixture** | Substance |
| **Synonym** | Propan-1-ol; n-propyl alcohol |
| **Chemical Formula** | $C_3H_8O$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Serious eye damage | (Category 1) |
| Specific target organ toxicity - single exposure | (Category 3) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H318 | Causes serious eye damage. |
| H336 | May cause drowsiness or dizziness |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P261 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. |
| P280 | Wear protective gloves/ eye protection/ face protection. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

**Risk Phrases**

| | |
|---|---|
| R11 | Highly flammable. |
| R41 | Risk of serious damage to eyes. |
| R67 | Vapours may cause drowsiness and dizziness. |

**Safety Phrases**

| | |
|---|---|
| S7 | Keep container tightly closed. |
| S16 | Keep away from sources of ignition. |
| S24 | Avoid contact with skin. |
| S26 | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |
| S39 | Wear eye / face protection. |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | A clear colourless liquid |
| **Odour** | alcohol-like |
| **Odour Threshold** | no data available |
| **pH** | 7 at 200 g/l at 20 °C |
| **Melting/freezing point** | Melting point/range: -127 °C - lit. |
| **Boiling point/range** | 96.5 - 98 °C at 1,013 hPa |
| **Flash point** | 15 °C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 19 hPa at 20 °C |
| **Vapour density** | 2.07 - (Air = 1.0) |
| **Relative density** | 2.1 |
| **Water solubility** | at 20 °C miscible in all proportions |
| **LogPow** | 0.25 |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | 2.3 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Vapours may form explosive mixture with air. |
| **Stability** | The product is chemically stable under standard ambient conditions (room temperature). |
| **Incompatibilities** | rubber, various plastics |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Warming. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | Rabbit Result: No irritation |
| **Serious eye damage/irritation** | Rabbit Result: Severe irritations |
| **Respiratory/skin sensitization** | Sensitisation test: Guinea pig Result: negative |

| | |
|---|---|
| **Germ cell mutagenicity** | Genotoxicity in vitro Ames test Escherichia coli/Salmonella typhimurium Result: negative |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** May cause drowsiness or dizziness. |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 Pimephales promelas (fathead minnow): 4,630 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | static test EC50 Daphnia magna (Water flea): 3,644 mg/l; 48 h |
| **Persistence/degradation** | Biodegradability 75 %; 20 d; aerobic (IUCLID) Readily biodegradable |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1274 |
| **Proper shipping name** | N-Propanol |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | 2-Propanol GC grade |
| **Cat No.** | GC0700 |
| **CAS-No.** | 67-63-0 |
| **M.W.** | 60.10 |
| **EC-No.** | - |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | Isopropyl alcohol |
| **CAS No.** | 67-63-0 |
| **Percent** | >99.9% |
| **Substance/Mixture** | Substance |
| **Synonym** | Propan-2-ol; Isopropanol; IPA |
| **Chemical Formula** | $(CH_3)_2CHOH$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Eye irritation | (Category 2) |
| Specific target organ toxicity - single exposure | (Category 3) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P261 | Avoid breathing vapours. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

**Risk Phrases**

| | |
|---|---|
| R11 | Highly flammable. |
| R36 | Irritating to eyes. |
| R67 | Vapours may cause drowsiness and dizziness. |

**Safety Phrases**

| | |
|---|---|
| S7 | Keep container tightly closed. |
| S16 | Keep away from sources of ignition. |
| S24/25 | Avoid contact with skin and eyes. |
| S26 | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |

| | |
|---|---|
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | A clear colourless liquid |
| **Odour** | alcohol-like |
| **Odour Threshold** | 1.0 -196.1 ppm |
| **pH** | at 20 °C neutral |
| **Melting/freezing point** | -89.5 °C |
| **Boiling point/range** | 82.4 °C at 1,013 hPa |
| **Flash point** | 12.0 °C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 43 hPa at 20 °C |
| **Vapour density** | 2.07 |
| **Relative density** | 0.783-0.786g |
| **Water solubility** | at 20 °C soluble |
| **LogPow** | 0.05 |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | 2.2 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Formation of peroxides possible. Vapours may form explosive mixture with air. |
| **Stability** | Sensitivity to light, Sensitive to air. The product is chemically stable under standard ambient conditions (room temperature) |
| **Incompatibilities** | rubber, various plastics, oils |
| **Hazardous decomposition products** | Peroxides |
| **Conditions to avoid** | Warming. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | Rabbit Result: No skin irritation |
| **Serious eye damage/irritation** | Rabbit Result: Eye irritation |
| **Respiratory/skin sensitization** | Buehler Test Guinea pig Result: negative |
| **Germ cell mutagenicity** | Genotoxicity in vitro Ames test Salmonella typhimurium Result: negative |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |

| | |
|---|---|
| **Specific target organ toxicity** | Single exposure**:** May cause drowsiness or dizziness. |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | flow-through test LC50 Pimephales promelas (fathead minnow): 9,640 mg/l; 96 |
| Toxicity to daphnia and other aquatic invertebrates | EC50 Daphnia magna (Water flea): 13,299 mg/l; 48 h |
| **Persistence/degradation** | Biodegradability 95 %; 21 d; aerobic Readily biodegradable |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1219 |
| **Proper shipping name** | ISOPROPANOL |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

Chemistry beyond chemicals

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Acetone |
| **Cat No.** | GC0005 |
| **CAS-No.** | 67-64-1 |
| **M.W.** | 58.08 |
| **EC-No.** | 200-662-2 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 67-64-1 |
| **Percent** | >99.9% |
| **Substance/Mixture** | Substance |
| **Synonym** | 2-Propanone; Dimethyl ketone |
| **Chemical Formula** | $(CH_3)_2CO$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Eye irritation | (Category 2) |
| Specific target organ toxicity - single exposure | (Category 3) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P261 | Avoid breathing vapours. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides. |
| **Advice for firefighters** | Wear personal protective equipment for firefighting if necessary. |
| **Further information** | no data available |

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination.If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | Clear colourless liquid |
| **Odour** | pungent, weakly aromatic |
| **Odour Threshold** | no data available |
| **pH** | 5 - 6 at 395 g/l 20 °C |
| **Melting/freezing point** | -95.0 °C |
| **Boiling point/range** | 56.0 °C at 1,013 hPa |
| **Flash point** | < -20 °C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 245.3 hPa at 20.0 °C |
| **Vapour density** | no data available |
| **Relative density** | 0,79 g/cm3 at 20 °C |
| **Water solubility** | at 20 °C soluble |
| **LogPow** | no data available |
| **Auto-ignition temperature** | 465.0 °C |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Vapours may form explosive mixture with air. |
| **Stability** | Sensitivity to light, Sensitive to air. |
| **Incompatibilities** | rubber, various plastics |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Warming |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | Acute oral toxicity LD50 Rat: 5,800 mg/kg<br>Acute inhalation toxicity LC50 Rat: 76 mg/l; 4 h<br>Acute dermal toxicity LD50 Rabbit: 20,000 mg/kg |
| **Skin corrosion/irritation** | Rabbit Result: No irritation |
| **Serious eye damage/irritation** | Rabbit Result: Eye irritation |
| **Respiratory/skin sensitization** | Maximisation Test Guinea pig Result: negative |

| | |
|---|---|
| **Germ cell mutagenicity** | Genotoxicity in vivo Micronucleus test Result: negative |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure: May cause drowsiness or dizziness. |
| **Specific target organ toxicity** | Repeated exposure: no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity** | |
| Toxicity to fish | LC50 Oncorhynchus mykiss (rainbow trout): 5,540 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 Daphnia magna (Water flea): 6,100 mg/l; 48 h |
| **Persistence/degradation** | |
| Biodegradability | Result: 91 % - Readily biodegradable. |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1090 |
| **Proper shipping name** | Acetone |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | **Acetonitrile** GC grade |
| **Cat No.** | GC0010 |
| **CAS-No.** | 75-05-8 |
| **M.W.** | 41.05 |
| **EC-No.** | 200-835-2 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 75-05-8 |
| **Percent** | >99.9% |
| **Substance/Mixture** | Substance |
| **Synonym** | Methyl cyanide ; Cyanomethane |
| **Chemical Formula** | $CH_3CN$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Acute toxicity, Oral | (Category 4) |
| Acute toxicity, Inhalation | (Category 4) |
| Acute toxicity, Dermal | (Category 4) |
| Eye irritation | (Category 2) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word**

Danger

**Hazard statement(s)**

H225 Highly flammable liquid and vapour.
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled
H319 Causes serious eye irritation.

**Precautionary statement(s)**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280 Wear protective gloves/ protective clothing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides, nitrogen oxides (NOx) |
| **Advice for firefighters** | Wear personal protective equipmentfor fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing |

| | |
|---|---|
| | vapours, mist or gas. Ensure adequate ventilation.Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep insuitable, closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes.Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use.Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination.If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear colourless liquid |
| **Odour** | ether-like |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | -45.7°C at 1.013 hPa |
| **Boiling point/range** | 80-83°C |
| **Flash point** | 2.0°C -closed cup |
| **Evapouration rate** | 5.8 |
| **Vapour pressure** | 73,18 hPa at 15 °C<br>121.44 hPa at 25 °C<br>413.23 hPa at 55 °C<br>98.64 hPa at 20 °C |
| **Vapour density** | 1.42 - (Air = 1.0) |
| **Relative density** | 0.780-0.783g |
| **Water solubility** | completely miscible |
| **LogPow** | -0.54 at 25 °C |
| **Auto-ignition temperature** | 524.0 °C |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | Not explosive |
| **Oxidizing properties** | The substance or mixture is not classified as oxidizing. |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions. |
| **Incompatibilities** | Acids, Bases, Oxidizing agents, Reducing agents, Alkali metals |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Heat, flames and sparks. Extremes of temperature and direct sunlight. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | LD50 Oral - rat - male - 1.320 - 6.690 mg/kg<br>LC50 Inhalation - mouse - 4 h - 3587 ppm (OECD Test Guideline 403)<br>LC50 Inhalation - rat - 4 h - 26,8 mg/l<br>LD50 Dermal - rabbit - male and female - > 2.000 mg/kg (OECD Test Guideline 402) |
| **Skin corrosion/irritation** | Skin – rabbit Result: No skin irritation (OECD Test Guideline 404) |

| | |
|---|---|
| **Serious eye damage/irritation** | Eyes – rabbit Result: Irritating to eyes. (OECD Test Guideline 405) |
| **Respiratory/skin sensitization** | Buehler Test - guinea pig Did not cause sensitisation on laboratory animals. (OECD Test Guideline 406) |
| **Germ cell mutagenicity** | no data available |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | Animal testing did not show any effects on fertility. |
| **Specific target organ toxicity** | Single exposure **:** The substance or mixture is not classified as specific target organ toxicant,single exposure. |
| **Specific target organ toxicity** | Repeated exposure**:** The substance or mixture is not classified as specific target organ toxicant, repeated exposure. |
| **Aspiration hazard** | No aspiration toxicity classification |
| **RTECS** | AL7700000 |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 - Pimephales promelas (fathead minnow) - 1.640,00 mg/l - 96 h<br>NOEC - Oryzias latipes - 102 mg/l - 21 d |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 3.600 mg/l - 48 h<br>(OECD Test Guideline 202)<br>NOEC - Daphnia magna (Water flea) - 160 mg/l - 21 d |
| **Persistence/degradation** | |
| | Biodegradability Result: 84 % - Readily biodegradable.<br>(OECD Test Guideline 301C) |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1648 |
| **Proper shipping name** | Acetonitrile |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Safety, health and environmental regulations/legislation specific for the substance/mixture :**no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Benzene GC grade |
| **Cat No.** | GC0100 |
| **CAS-No.** | 71-43-2 |
| **M.W.** | 78.11 |
| **EC-No.** | 200-753-7 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 71-43-2 |
| **Percent** | >99.9% |
| **Substance/Mixture** | Substance |
| **Synonym** | - |
| **Chemical Formula** | $C_6H_6$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Skin irritation | (Category 2) |
| Eye irritation | (Category 2) |
| Germ cell mutagenicity | (Category 1B) |
| Carcinogenicity | (Category 1A) |
| Specific target organ toxicity - repeated exposure | (Category 1) |
| Aspiration hazard | (Category 1) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H340 | May cause genetic defects. |
| H350 | May cause cancer. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |

**Precautionary statement(s)**

| | |
|---|---|
| P201 | Obtain special instructions before use. |
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| P331 | Do NOT induce vomiting. |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear,colourless liquid |
| **Odour** | no data available |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | 5.5 °C |
| **Boiling point/range** | 79-81°C |
| **Flash point** | -11.0 °C - closed cup |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 221.3 hPa at 37.7 °C<br>99.5 hPa at 20.0 °C |
| **Vapour density** | no data available |
| **Relative density** | 0.875-0.879g |
| **Water solubility** | no data available |
| **LogPow** | no data available |
| **Auto-ignition temperature** | 562.0 °C |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions. |
| **Incompatibilities** | Acids, Bases, Halogens, Strong oxidizing agents, Metallic salts |
| **Hazardous decomposition** | no data available |

| | |
|---|---|
| **products** | |
| **Conditions to avoid** | Heat, flames and sparks. Extremes of temperature and direct sunlight. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | Skin – rabbit Result: Skin irritation |
| **Serious eye damage/irritation** | Eyes – rabbit Result: Eye irritation |
| **Respiratory/skin sensitization** | no data available |
| **Germ cell mutagenicity** | Laboratory experiments have shown mutagenic effects.<br>In vivo tests showed mutagenic effects<br><br>Human<br>lymphocyte<br>Sister chromatid exchange<br><br>mouse<br>lymphocyte<br>Mutation in mammalian somatic cells.<br><br>mouse<br>Sister chromatid exchange |
| **Carcinogenicity** | Carcinogenicity - Human - male - Inhalation<br>Tumorigenic:Carcinogenic by RTECS criteria. Leukaemia Blood:Thrombocytopenia.<br>Carcinogenicity - rat - Oral<br>Tumorigenic:Carcinogenic by RTECS criteria. Endocrine:Tumors. Leukaemia<br>This is or contains a component that has been reported to be carcinogenic based on its IARC, OSHA,ACGIH, NTP, or EPA classification.<br>Human carcinogen.<br>IARC: 1 - Group 1: Carcinogenic to humans (Benzene) |
| **Reproductive toxicity** | Reproductive toxicity - mouse - Intraperitoneal<br>Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or Fetus: Fetal death.<br><br>Developmental Toxicity - rat - Inhalation<br>Effects on Embryo or Fetus: Extra embryonic structures (e.g., placenta, umbilical cord).<br>Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).<br><br>Developmental Toxicity - mouse - Inhalation<br>Effects on Embryo or Fetus: Cytological changes (including somatic cell genetic material).<br>Specific Developmental Abnormalities: Blood and lymphatic system (including spleen and marrow). |
| **Specific target organ toxicity** | Single exposure **:** no data available |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | May be fatal if swallowed and enters airways. |
| **RTECS** | CY1400000 |

## SECTION 12: ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity** | |
| Toxicity to fish | LC50 - Oncorhynchus mykiss (rainbow trout) - 5,90 mg/l - 96 h<br>LC50 - Pimephales promelas (fathead minnow) - 15,00 - 32,00 mg/l - 96 h<br>LC50 - Lepomis macrochirus (Bluegill) - 230,00 mg/l - 96 h<br>NOEC - Pimephales promelas (fathead minnow) - 10,2 mg/l - 7 d<br>LOEC - Pimephales promelas (fathead minnow) - 17,2 mg/l - 7 d |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 22,00 mg/l - 48 h<br>EC50 - Daphnia magna (Water flea) - 9,20 mg/l - 48 h |
| Toxicity to algae | EC50 - Pseudokirchneriella subcapitata (green algae) - 29,00 mg/l - 72 h |
| **Persistence/degradation** | Biodegradability Result: - Readily biodegradable. |
| **Environmental** | Toxic to aquatic life. |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.

There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1114 |
| **Proper shipping name** | Benzene |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Safety, health and environmental regulations/legislation specific for the substance/mixture :**no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Cyclohexane GC grade |
| **Cat No.** | GC0200 |
| **CAS-No.** | 110-82-7 |
| **M.W.** | 84.16 |
| **EC-No.** | 203-806-2 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 110-82-7 |
| **Percent** | 99.9% |
| **Substance/Mixture** | Substance |
| **Synonym** | - |
| **Chemical Formula** | $CH_2.(CH_2)_4.CH_2$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquid | Category 2 |
| Skin irritation | Category 2 |
| Specific target organ toxicity - single exposure | Category 3 |
| Aspiration hazard | Category 1 |
| Acute aquatic toxicity | Category 1 |
| Chronic aquatic toxicity | Category 1 |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word**

Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H336 | May cause drowsiness or dizziness. |
| H410 | Very toxic to aquatic life with long lasting effects. |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P273 | Avoid release to the environment. |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. |
| P331 | Do NOT induce vomiting. |
| P501 | Dispose of contents/container to..... |

**Risk Phrases**

| | |
|---|---|
| R11 | Highly flammable. |
| R38 | Irritating to skin. |
| R65 | Harmful: may cause lung damage if swallowed. |
| R67 | Vapours may cause drowsiness and dizziness. |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |

**Safety Phrases**

| | |
|---|---|
| S9 | Keep container in a well-ventilated place. |
| S16 | Keep away from sources of ignition - No smoking. |
| S25 | Avoid contact with eyes. |
| S33 | Take precautionary measures against static discharges. |
| S51 | Use only in well-ventilated areas. |
| | This material and its container must be disposed of as hazardous waste. |
| | Avoid release to the environment. Refer to special instructions/ Safety data sheets. |

| | |
|---|---|
| S62 | If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | no data available |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | A Clear colorless liquid. |
| **Odour** | Sweet |
| **Odour Threshold** | 0.5 ppm |
| **pH** | no data available |
| **Melting/freezing point** | 6.5 °C |
| **Boiling point/range** | 80-82ºC |
| **Flash point** | -18 °C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 124 hPa at 24 °C |
| **Vapour density** | 2.9 |
| **Relative density** | 0.776-0.780 g |
| **Water solubility** | 0.05 g/l at 20 °C |
| **LogPow** | 3.44 |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | 0.98 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

| | |
|---|---|
| **Reactivity** | Vapours may form explosive mixture with air. |
| **Stability** | The product is chemically stable under standard ambient conditions (room temperature). |
| **Incompatibilities** | rubber, various plastics |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Warming. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | Acute oral toxicity: LD50 Rat: > 5,000 mg/kg<br>Acute inhalation toxicity: LC50 Rat: > 33.88 mg/l; 4 h<br>Acute dermal toxicity: LD50 Rabbit: > 2,000 mg/kg |
| **Skin corrosion/irritation** | Causes skin irritation. |
| **Serious eye damage/irritation** | Rabbit Result: No eye irritation |
| **Respiratory/skin sensitization** | Buehler Test Guinea pig Result: Does not cause skin sensitisation. |
| **Germ cell mutagenicity** | Genotoxicity in vivo: Chromosome aberration test Rat male and female inhalation (vapour) Bone marrow Result: negative<br>Genotoxicity in vitro: Ames test Salmonella typhimurium Result: negative |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** May cause drowsiness or dizziness. |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | Aspiration hazard, Aspiration may cause pulmonary oedema and pneumonitis. |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish: | flow-through test LC50 Pimephales promelas : 4.53 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates: | static test EC50 Daphnia magna (Water flea): 0.9 mg/l; 48 h |
| **Persistence/degradation** | Biodegradability 77 %; 28 d; Readily biodegradable |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1145 |
| **Proper shipping name** | CYCLOHEXANE |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Dichloro Methane GC grade |
| **Cat No.** | GC0300 |
| **CAS-No.** | 75-09-2 |
| **M.W.** | 84.93 |
| **EC-No.** | 200-838-9 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | Methylene Chloride |
| **CAS No.** | 75-09-2 |
| **Percent** | >99.9% |
| **Substance/Mixture** | Substance |
| **Synonym** | Methylene Chloride |
| **Chemical Formula** | $CH_2Cl_2$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Skin irritation | (Category 2) |
| Eye irritation | (Category 2) |
| Carcinogenicity | (Category 2) |
| Specific target organ toxicity - single exposure | (Category 3) |
| Specific target organ toxicity - repeated exposure, Oral | (Category 2) |
| Specific target organ toxicity - repeated exposure, Inhalation | (Category 2) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Warning

**Hazard statement(s)**

| | |
|---|---|
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness. |
| H351 | Suspected of causing cancer. |
| H373 | May cause damage to organs (Liver, Blood) through prolonged or repeated exposure if swallowed. |

**Precautionary statement(s)**

| | |
|---|---|
| P261 | Avoid breathing vapours. |
| P281 | Use personal protective equipment as required. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

**Risk Phrases**

| | |
|---|---|
| R36/37/38 | Irritating to eyes, respiratory system and skin. |
| R40 | Limited evidence of a carcinogenic effect. |
| R67 | Vapours may cause drowsiness and dizziness. |

**Safety Phrases**

| | |
|---|---|
| S23 | Do not breathe vapour. |
| S24/25 | Avoid contact with skin and eyes. |
| S36/37 | Wear suitable protective clothing and gloves. |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |

| | |
|---|---|
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Hydrogen chloride gas, Phosgene |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear colourless liquid |
| **Odour** | Sweet |
| **Odour Threshold** | 24.9 - 611.7 ppm |
| **pH** | at 20 °C neutral |
| **Melting/freezing point** | -95.0 °C |
| **Boiling point/range** | 40 °C at 1,013 hPa |
| **Flash point** | no data available |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 475 hPa at 20 °C |
| **Vapour density** | 2.93 |
| **Relative density** | no data available |
| **Water solubility** | 20 g/l at 20 °C |
| **LogPow** | 1.25 |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | > 120 °C |
| **Viscosity** | 0.43 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Sensitivity to light<br>Stabilizer, 2-methyl-2-butene |
| **Incompatibilities** | rubber, various plastics, Light metals, Metals, Mild steel |
| **Hazardous decomposition products** | Hydrogen chloride gas, Phosgene |
| **Conditions to avoid** | no data available |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | Rabbit Result: Irritations |
| **Serious eye damage/irritation** | Rabbit Result: Eye Irritations |
| **Respiratory/skin sensitization** | Local lymph node assay (LLNA) Mouse Result: negative |
| **Germ cell mutagenicity** | Genotoxicity in vitro Mutagenicity (mammal cell test): chromosome aberration. Result: positive |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** May cause respiratory irritation. May cause drowsiness or dizziness. |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | flow-through test LC50 Pimephales promelas (fathead minnow): 193 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | static test EC50 Daphnia magna (Water flea): 27 mg/l; 48 h |
| **Persistence/degradation** | Biodegradability 68 %; 28 d; aerobic Readily biodegradable |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1593 |
| **Proper shipping name** | Dichloro Methane |
| **Hazard class** | 6.1 |
| **Packaging group** | III |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Methanol GC grade |
| **Cat No.** | GC0600 |
| **CAS-No.** | 67-56-1 |
| **M.W.** | 32.04 |
| **EC-No.** | 200-659-6 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | Methyl Alcohol |
| **CAS No.** | 67-56-1 |
| **Percent** | >99.9% |
| **Substance/Mixture** | Substance |
| **Synonym** | Carbinol |
| **Chemical Formula** | $CH_3OH$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Acute toxicity, Oral | (Category 3) |
| Acute toxicity, Inhalation | (Category 3) |
| Acute toxicity, Dermal | (Category 3) |
| Specific target organ toxicity - single exposure | (Category 1) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word**

Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H301 | Toxic if swallowed. |
| H311 | Toxic in contact with skin |
| H331 | Toxic if inhaled. |
| H370 | Causes damage to organs. |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and otherignition sources. No smoking. |
| P260 | Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. |
| P280 | Wear protective gloves/ protective clothing. |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. |
| P311 | Call a POISON CENTER or doctor/ physician. |

**Risk Phrases**

| | |
|---|---|
| R11 | Highly flammable. |
| R23/24/25 | Toxic by inhalation, in contact with skin and if swallowed. |
| R39/23/24/25 | Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. |

**Safety Phrases**

| | |
|---|---|
| S7 | Keep container tightly closed. |
| S16 | Keep away from sources of ignition. |
| S36/37 | Wear suitable protective clothing and gloves. |
| S45 | In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.) |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. |

| | |
|---|---|
| | Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear colourless liquid |
| **Odour** | characteristic |
| **Odour Threshold** | 10 -20000 ppm |
| **pH** | no data available |
| **Melting/freezing point** | -98 °C |
| **Boiling point/range** | 64.5 °C at 1,013 hPa |
| **Flash point** | 10 °C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 128 hPa at 20.0 °C |
| **Vapour density** | 1.11 |
| **Relative density** | 0.790-0.792g |
| **Water solubility** | at 20 °C soluble |
| **LogPow** | -0.77 |
| **Auto-ignition temperature** | 455.0 °C |
| **Decomposition temperature** | no data available |
| **Viscosity** | 0.597 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Vapours may form explosive mixture with air. |
| **Stability** | The product is chemically stable under standard ambient conditions (room temperature) |
| **Incompatibilities** | various plastics, magnesium, zinc alloys |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Warming |

| | |
|---|---|
| **Skin corrosion/irritation** | Rabbit Result: No Skin irritation |
| **Serious eye damage/irritation** | Rabbit Result: No eye irritation |
| **Respiratory/skin sensitization** | Sensitisation test: Guinea pig Result: negative |
| **Germ cell mutagenicity** | Genotoxicity in vitro Ames test Salmonella typhimurium Result: negative |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** Causes damage to organs. |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | PC1400000 |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 Lepomis macrochirus (Bluegill sunfish): 15,400 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 Daphnia magna (Water flea): > 10,000 mg/l; 48 h |
| **Persistence/degradation** | Biodegradability 99 %; 30 d Readily biodegradable |
| **Environmental** | Avoid release to the environment. |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1230 |
| **Proper shipping name** | Methanol |
| **Hazard class** | 3(6.1) |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | N,N-Dimethyl Formamide GC grade |
| **Cat No.** | GC0421 |
| **CAS-No.** | 68-12-2 |
| **M.W.** | 73.09 |
| **EC-No.** | 200-679-5 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | Dimethyl Formamide |
| **CAS No.** | 68-12-2 |
| **Percent** | >99.9% |
| **Substance/Mixture** | Substance |
| **Synonym** | Formyldimethylamine; DMF; DMFA |
| **Chemical Formula** | $C_3H_7NO$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 3) |
| Acute toxicity, Inhalation | (Category 4) |
| Acute toxicity, Dermal | (Category 4) |
| Eye irritation | (Category 2) |
| Reproductive toxicity | (Category 1B) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word**

Danger

**Hazard statement(s)**

H226 Flammable liquid and vapour.
H312 + H332 Harmful in contact with skin or if inhaled
H319 Causes serious eye irritation.
H360D May damage the unborn child.

**Precautionary statement(s)**

P201 Obtain special instructions before use.
P280 Wear protective gloves/ protective clothing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

**Risk Phrases**

R61 May cause harm to the unborn child.
R20/21 Also harmful by inhalation and in contact with skin.
R36 Irritating to eyes.

**Safety Phrases**

S53 Avoid exposure - obtain special instructions before use.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides, nitrogen oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear colourless liquid |
| **Odour** | amine-like |
| **Odour Threshold** | 0.329 ppm |
| **pH** | 7 at 200 g/l 20 °C |
| **Melting/freezing point** | -61 °C |
| **Boiling point/range** | 153 °C at 1,013 hPa |
| **Flash point** | 57.5 °C at 1,013 hPa |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 3.77 hPa at 20 °C |
| **Vapour density** | 2.51 |
| **Relative density** | no data available |
| **Water solubility** | 1,000 g/l at 20 °C |
| **LogPow** | -0.85 |
| **Auto-ignition temperature** | 435 °C at 1,013 hPa |
| **Decomposition temperature** | > 350 °C |
| **Viscosity** | 0.86 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Vapour/air-mixtures are explosive at intense warming |
| **Stability** | The product is chemically stable under standard ambient conditions (room temperature) |
| **Incompatibilities** | various plastics, Copper, Copper alloys, Tin |
| **Hazardous decomposition products** | Carbon oxides, nitrogen oxides |
| **Conditions to avoid** | Heating. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | Rabbit Result: No irritation |
| **Serious eye damage/irritation** | Rabbit Result: eye irritation |
| **Respiratory/skin sensitization** | Sensitisation test:Guinea pig Result: negative |

| | |
|---|---|
| **Germ cell mutagenicity** | Genotoxicity in vitro Ames test Salmonella typhimurium Result: negative |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** no data available |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | flow-through test LC50 Lepomis macrochirus (Bluegill sunfish): 7,100 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | static test EC50 Daphnia magna (Water flea): 13,100 mg/l; 48 h |
| **Persistence/degradation** | Biodegradability Result: > 90 % - Readily biodegradable. |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 2265 |
| **Proper shipping name** | N,N-Dimethyl Formamide |
| **Hazard class** | 3 |
| **Packaging group** | III |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

Chemistry beyond chemicals

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | n-Butanol GC grade |
| **Cat No.** | GC0110 |
| **CAS-No.** | 71-36-3 |
| **M.W.** | 74.12 |
| **EC-No.** | 200-751-6 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 71-36-3 |
| **Percent** | 99.9% |
| **Substance/Mixture** | Substance |
| **Synonym** | n-Butyl alcohol |
| **Chemical Formula** | $(CH_3).(CH_2)_3OH$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 3) |
| Acute toxicity, Oral | (Category 4) |
| Skin irritation | (Category 2) |
| Serious eye damage | (Category 1) |
| Specific target organ toxicity - single exposure, Central nervous system | (Category 3) |
| Specific target organ toxicity - single exposure, Respiratory system | (Category 3) |

**PICTOGRAMS HAZARD SYMBOL**

**Signal word** Danger

**Hazard Statements**

H302 Harmful if swallowed.
H226 Flammable liquid and vapour.
H336 may cause drowsiness and dizziness.
H315 Causes skin irritation.
H318 Causes serious eye damage .
H335 May cause respiratory irritation.

**Precautionary Statement**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P305 +P351 +P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Risk phrase**

R10 Flammable.
R22 Harmful if swallowed.
R41 Risk of serious damage to the eyes.
R67 Vapours may cause drowsiness and dizziness.
R37/38 Irritating to respiratory system and skin.

**Safety Phrase**

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical Advice.
S37/39 Wear suitable gloves and eye/face protection .
S7/9 Keep container tightly closed and in well ventilated place.
S13 Keep away from food, drink and animal foodstuffs.
S46 If swallowed, seek medical advice immediately and show this container or label.
S47 Keep at temperature not exceeding...

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | No data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | liquid, colourless |
| **Odour** | no data available |
| **Odour Threshold** | 0.004-48.7 ppm |
| **pH** | 7 at 70g/l 20°C |
| **Melting/freezing point** | -89°C |
| **Boiling point/range** | 116-118°C |
| **Flash point** | 34°C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 6.7 hPa at 20°C |
| **Vapour density** | 2.6 at 20°C |
| **Relative density** | no data available |
| **Water solubility** | 66 g/l at 20°C |
| **Auto-ignition temperature** | No data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions |
| **Incompatibilities** | Strong oxidizing agents |
| **Hazardous decomposition Products** | no data available |
| **Conditions to avoid** | no data available |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | No data available |
| **Skin corrosion/irritation** | No data available |
| **Serious eye damage/irritation** | No data available |
| **Respiratory/skin sensitization** | No data available |
| **Germ cell mutagenicity** | No data available |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | No data available |
| **Specific target organ toxicity** | Single exposure: No data available |
| **Specific target organ toxicity** | Repeated exposure: No data available |
| **Aspiration hazard** | No data available |
| **RTECS** | No data available |

## SECTION 12: ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity** | No data available |
| **Persistence/degradation** | No data available |
| **Environmental** | No data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1120 |
| **Proper shipping name** | Butanols |
| **Hazard class** | 3 |
| **Packaging group** | III |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# High Purity Liquid Chromatography


| CODE | PRODUCT NAME | CAS NO. |
|---|---|---|
| HP0227 | 1-Propanol for HPLC & Spectroscopy | 71-23-8 |
| HP0228 | 2-Propanol for HPLC & Spectroscopy | 67-63-0 |
| HP0001 | Acetic Acid for HPLC & Spectroscopy | 64-19-7 |
| HP0002 | Acetone for HPLC & Spectroscopy | 67-64-1 |
| GP0005 | Acetonitrile for Gradient Premium Grade | 75-05-8 |
| HP0004 | Acetonitrile for HPLC & Spectroscopy | 75-05-8 |
| HP0003 | Acetonitrile for praparative (HPLC) | 75-05-8 |
| HP0005 | Acetonitrile Gradient Grade for HPLC | 75-05-8 |
| HP0006 | Acetonitrile/Water 50:50 (w/w) for HPLC | |
| HP0009 | Ammonium Acetate for HPLC | 631-61-8 |
| HP0051 | Benzene HPLC | 71-43-2 |
| HP0072 | Carbon Tetra Chloride for HPLC & Spectroscopy | 56-23-5 |

| | | |
|---|---|---|
| HP0075 | Chloroform for HPLC & Spectroscopy | 67-66-3 |
| HP0080 | Citric Acid Monohydrate for HPLC & Spectroscopy | 5949-29-1 |
| HP0076 | Cyclohexane for HPLC & Spectroscopy | 110-82-7 |
| HP0101 | Dichloro Methane for HPLC & Spectroscopy | 75-09-2 |
| HP0225 | di-Potassium Hydrogen Ortho Phosphate for HPLC & Spectroscopy | 7758-11-4 |
| HP0263 | di-Sodium Hydrogen Ortho Phosphate Dihydrate for HPLC & Spectroscopy | 10028-24-7 |
| HP0126 | Ethyl Acetate for HPLC & Spectroscopy | 141-78-6 |
| HP0178 | Hexane for HPLC & Spectroscopy | 110-54-3 |
| HP0184 | Iso-Butyl Methyl Ketone 99.5% HPLC | 108-10-1 |
| HP0204 | Methanol 20% Solution in water with Sodium Phosphate Monobasic for HPLC | |
| HP0203 | Methanol 99.8% Gradient Grade | 67-56-1 |
| HP0201 | Methanol for HPLC | 67-56-1 |
| HP0202 | Methanol for Spectroscopy | 67-56-1 |
| GP0203 | Methanol Gradient Premium Grade | 67-56-1 |
| HP0205 | Methanol/Water (50:50) for HPLC | |
| HP0208 | Methyl Acetate for HPLC | 79-20-9 |

| | | |
|---|---|---|
| HP0103 | N,N-Dimethyl Formamide for HPLC & Spectroscopy | 68-12-2 |
| HP0063 | n-Butyl Chloride 99% HPLC | 109-69-3 |
| HP0176 | n-Heptane for HPLC & Spectroscopy | 142-82-5 |
| HP0179 | n-Hexane for HPLC & Spectroscopy | 110-54-3 |
| HP0223 | ortho-Phosphoric Acid 85% For HPLC | 7664-38-2 |
| HP0226 | Potassium Bromide for IR Spectroscopy | 7758-02-3 |
| HP0250 | Sodium Acetate Anhydrous for HPLC & Spectroscopy | 127-09-3 |
| HP0255 | Sodium Chloride for HPLC & Spectroscopy | 7647-14-5 |
| HP0260 | Sodium Dihyrogen Ortho Phosphate Dihydrate for HPLC | 13472-35-0 |
| HP0262 | Sodium Hydrogen Carbonate for HPLC & Spectroscopy | 144-55-8 |
| HP0053 | tert-Butanol for HPLC & Spectroscopy | 75-65-0 |
| HP0301 | Tetrachloroethylene for Spectroscopy | 127-18-4 |
| HP0302 | Tetrahydrofuran For HPLC & Spectroscopy | 109-99-9 |
| HP0303 | Toluene for HPLC & Spectroscopy | 108-88-3 |
| HP0304 | Trichloroethylene for Spectroscopy | 79-01-6 |
| HP0351 | Water for HPLC & Spectroscopy | 7732-18-5 |

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | 1-Propanol for HPLC & Spectroscopy |
| **Cat No.** | HP0227 |
| **CAS-No.** | 71-23-8 |
| **M.W.** | 60.10 |
| **EC-No.** | |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 71-23-8 |
| **Percent** | >99.8% |
| **Substance/Mixture** | Substance |
| **Synonym** | Propan-1-ol; n-propyl alcohol |
| **Chemical Formula** | $C_3H_8O$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Serious eye damage | (Category 1) |
| Specific target organ toxicity - single exposure | (Category 3) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H318 | Causes serious eye damage. |
| H336 | May cause drowsiness or dizziness |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P261 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. |
| P280 | Wear protective gloves/ eye protection/ face protection. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

**Risk Phrases**

| | |
|---|---|
| R11 | Highly flammable. |
| R41 | Risk of serious damage to eyes. |
| R67 | Vapours may cause drowsiness and dizziness. |

**Safety Phrases**

| | |
|---|---|
| S7 | Keep container tightly closed. |
| S16 | Keep away from sources of ignition. |
| S24 | Avoid contact with skin. |
| S26 | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |
| S39 | Wear eye / face protection. |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | A clear colourless liquid |
| **Odour** | alcohol-like |
| **Odour Threshold** | no data available |
| **pH** | 7 at 200 g/l at 20 °C |
| **Melting/freezing point** | Melting point/range: -127 °C - lit. |
| **Boiling point/range** | 96.5 - 98 °C at 1,013 hPa |
| **Flash point** | 15 °C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 19 hPa at 20 °C |
| **Vapour density** | 2.07 - (Air = 1.0) |
| **Relative density** | 2.1 |
| **Water solubility** | at 20 °C miscible in all proportions |
| **LogPow** | 0.25 |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | 2.3 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Vapours may form explosive mixture with air. |
| **Stability** | The product is chemically stable under standard ambient conditions (room temperature). |
| **Incompatibilities** | rubber, various plastics |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Warming. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | Rabbit Result: No irritation |
| **Serious eye damage/irritation** | Rabbit Result: Severe irritations |
| **Respiratory/skin sensitization** | Sensitisation test: Guinea pig Result: negative |

| | |
|---|---|
| **Germ cell mutagenicity** | Genotoxicity in vitro Ames test Escherichia coli/Salmonella typhimurium Result: negative |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** May cause drowsiness or dizziness. |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 Pimephales promelas (fathead minnow): 4,630 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | static test EC50 Daphnia magna (Water flea): 3,644 mg/l; 48 h |
| **Persistence/degradation** | Biodegradability 75 %; 20 d; aerobic (IUCLID) Readily biodegradable |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1274 |
| **Proper shipping name** | N-Propanol |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | 2-Propanol HPLC & Spectoscopy |
| **Cat No.** | HP0228 |
| **CAS-No.** | 67-63-0 |
| **M.W.** | 60.10 |
| **EC-No.** | - |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 67-63-0 |
| **Percent** | >99.8% |
| **Substance/Mixture** | Substance |
| **Synonym** | Propan-2-ol; Isopropanol; IPA |
| **Chemical Formula** | $(CH_3)_2CHOH$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Eye irritation | (Category 2) |
| Specific target organ toxicity - single exposure | (Category 3) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P261 | Avoid breathing vapours. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

**Risk Phrases**

| | |
|---|---|
| R11 | Highly flammable. |
| R36 | Irritating to eyes. |
| R67 | Vapours may cause drowsiness and dizziness. |

**Safety Phrases**

| | |
|---|---|
| S7 | Keep container tightly closed. |
| S16 | Keep away from sources of ignition. |
| S24/25 | Avoid contact with skin and eyes. |
| S26 | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |

| | |
|---|---|
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | A clear colourless liquid |
| **Odour** | alcohol-like |
| **Odour Threshold** | 1.0 -196.1 ppm |
| **pH** | at 20 °C neutral |
| **Melting/freezing point** | -89.5 °C |
| **Boiling point/range** | 82.4 °C at 1,013 hPa |
| **Flash point** | 12.0 °C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 43 hPa at 20.0 °C |
| **Vapour density** | 2.07 |
| **Relative density** | 0.783-0.786g |
| **Water solubility** | at 20.0 °C soluble |
| **LogPow** | 0.05 |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | 2.2 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Formation of peroxides possible. Vapours may form explosive mixture with air. |
| **Stability** | Sensitivity to light, Sensitive to air. The product is chemically stable under standard ambient conditions (room temperature). |
| **Incompatibilities** | rubber, various plastics, oils |
| **Hazardous decomposition products** | Peroxides |
| **Conditions to avoid** | Warming. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | Rabbit Result: No skin irritation |
| **Serious eye damage/irritation** | Rabbit Result: eye skin irritation |
| **Respiratory/skin sensitization** | Buehler Test Guinea pig Result: negative |
| **Germ cell mutagenicity** | Genotoxicity in vitro Ames test Salmonella typhimurium Result: negative |
| **Carcinogenicity** | no data available |

| | |
|---|---|
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** May cause drowsiness or dizziness. |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 Pimephales promelas (fathead minnow): 9,640 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 Daphnia magna (Water flea): 13,299 mg/l; 48 h |
| **Persistence/degradation** | Biodegradability 95 %; 21 d; aerobic Readily biodegradable |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1219 |
| **Proper shipping name** | ISOPROPANOL |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

Chemistry beyond chemicals

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Acetic Acid Glacial for HPLC & Spectroscopy |
| **Cat No.** | HP0001 |
| **CAS-No.** | 64-19-7 |
| **M.W.** | 60.05 |
| **EC-No.** | 200-580-7 |
| **Company** | Hi |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 64-19-7 |
| **Percent** | >99.8% |
| **Substance/Mixture** | Substance |
| **Synonym** | Glacial Acetic Acid |
| **Chemical Formula** | $CH_3COOH$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 3) |
| Skin corrosion | (Category 1A) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

H226 Flammable liquid and vapour.
H314 Causes severe skin burns and eye damage.

**Precautionary statement(s)**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Suitable extinguishing media:<br>For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water. |
| **Special hazards** | Carbon oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |

| | |
|---|---|
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking .Take measures to prevent the build up of electrostatic charge. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination.If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | liquid |
| **Odour** | pungent |
| **Odour Threshold** | no data available |
| **pH** | 2.4 at 60.05 g/l |
| **Melting/freezing point** | 16.2°C - lit. |
| **Boiling point/range** | 117 - 118 °C - lit. |
| **Flash point** | 40.0 °C - closed cup |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 73.3 hPa at 50.0°C<br>15.2 hPa at 20.0°C |
| **Vapour density** | no data available |
| **Relative density** | 1.048-1.051g |
| **Water solubility** | completely miscible |
| **LogPow** | -0.17 |
| **Auto-ignition temperature** | 485.0 °C |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions. |
| **Incompatibilities** | Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, permanganates, e.g. potassium permanganate, Amines, Alcohols |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Heat, flames and sparks. |

## SECTION 11: TOXICOLOGICAL INFORMATION

**Acute toxicity**

LD50Oral - rat - 3.310 mg/kg
LC50Inhalation - mouse - 1 h - 5620 ppm

| | |
|---|---|
| | Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Conjunctive irritation.<br>Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye: Other. Blood: Other changes.<br>LD50Dermal - rabbit - 1.112 mg/kg |
| **Skin corrosion/irritation** | no data available |
| **Serious eye damage/irritation** | Eyes - rabbit - Corrosive to eyes |
| **Respiratory/skin sensitization** | May cause sensitization by skin contact. |
| **Germ cell mutagenicity** | no data available |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure : no data available. |
| **Specific target organ toxicity** | Repeated exposure: no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | RTECS: AF1225000 |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 - Pimephales promelas (fathead minnow) - 79 - 88 mg/l - 96 h<br>LC50 - Lepomis macrochirus - 75 mg/l - 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 65 mg/l - 48 h |
| **Persistence/degradation** | |
| | Biodegradability: aerobic - Exposure time 30 d<br>Result: 99 % - Readily biodegradable.<br>Remarks: Expected to be biodegradable |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 2789 |
| **Proper shipping name** | Acetic Acid Glacial |
| **Hazard class** | 8(3) |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Safety, health and environmental regulations/legislation specific for the substance/mixture :**no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Acetone For HPLC & Spectroscopy |
| **Cat No.** | HP0002 |
| **CAS-No.** | 67-64-1 |
| **M.W.** | 58.08 |
| **EC-No.** | 200-662-2 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 67-64-1 |
| **Percent** | >99.8% |
| **Substance/Mixture** | Substance |
| **Synonym** | 2-Propanone; Dimethyl ketone |
| **Chemical Formula** | $(CH_3)_2CO$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Eye irritation | (Category 2) |
| Specific target organ toxicity - single exposure | (Category 3) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P261 | Avoid breathing vapours. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides. |
| **Advice for firefighters** | Wear personal protective equipment for firefighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing |

| | |
|---|---|
| | vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination.If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear colourless liquid |
| **Odour** | Like-Fruit |
| **Odour Threshold** | 0.1 - 662.5 ppm |
| **pH** | 5 - 6 at 395 g/l 20 °C |
| **Melting/freezing point** | -95.4 °C |
| **Boiling point/range** | 56.2 °C at 1,013 hPa |
| **Flash point** | < -20 °C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 233 hPa at 20 °C |
| **Vapour density** | 2.01 |
| **Relative density** | 0.789-0.791 g |
| **Water solubility** | at 20 °C soluble |
| **LogPow** | -0.24 |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | 0.32 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Vapours may form explosive mixture with air. |
| **Stability** | Sensitivity to light, Sensitive to air. |
| **Incompatibilities** | rubber, various plastics |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Warming |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | Acute oral toxicity LD50 Rat: 5,800 mg/kg<br>Acute inhalation toxicity LC50 Rat: 76 mg/l; 4 h<br>Acute dermal toxicity LD50 Rabbit: 20,000 mg/kg |
| **Skin corrosion/irritation** | Rabbit Result: No irritation |
| **Serious eye damage/irritation** | Rabbit Result: Eye irritation |
| **Respiratory/skin sensitization** | Maximisation Test Guinea pig Result: negative |
| **Germ cell mutagenicity** | Genotoxicity in vivo Micronucleus test Result: negative |
| **Carcinogenicity** | no data available |

| | |
|---|---|
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** May cause drowsiness or dizziness. |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity** | |
| Toxicity to fish | LC50 Oncorhynchus mykiss (rainbow trout): 5,540 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 Daphnia magna (Water flea): 6,100 mg/l; 48 h |
| **Persistence/degradation** | |
| Biodegradability | Result: 91 % - Readily biodegradable. |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1090 |
| **Proper shipping name** | Acetone |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | **Acetonitrile** for HPLC & Spectroscopy |
| **Cat No.** | HP0004 |
| **CAS-No.** | 75-05-8 |
| **M.W.** | 41.05 |
| **EC-No.** | 200-835-2 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 75-05-8 |
| **Percent** | >99.9% |
| **Substance/Mixture** | Substance |
| **Synonym** | Methyl cyanide ; Cyanomethane |
| **Chemical Formula** | $CH_3CN$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Acute toxicity, Oral | (Category 4) |
| Acute toxicity, Inhalation | (Category 4) |
| Acute toxicity, Dermal | (Category 4) |
| Eye irritation | (Category 2) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word**

Danger

**Hazard statement(s)**

H225 Highly flammable liquid and vapour.
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled
H319 Causes serious eye irritation.

**Precautionary statement(s)**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280 Wear protective gloves/ protective clothing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides, nitrogen oxides (NOx) |
| **Advice for firefighters** | Wear personal protective equipmentfor fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing |

| | |
|---|---|
| | vapours, mist or gas. Ensure adequate ventilation.Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep insuitable, closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes.Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use.Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination.If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear colourless liquid |
| **Odour** | ether-like |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | -45.7°C at 1.013 hPa |
| **Boiling point/range** | 80-83°C |
| **Flash point** | 2.0°C -closed cup |
| **Evapouration rate** | 5.8 |
| **Vapour pressure** | 73,18 hPa at 15 °C<br>121.44 hPa at 25 °C<br>413.23 hPa at 55 °C<br>98.64 hPa at 20 °C |
| **Vapour density** | 1.42 - (Air = 1.0) |
| **Relative density** | 0.780-0.783g |
| **Water solubility** | completely miscible |
| **LogPow** | -0.54 at 25 °C |
| **Auto-ignition temperature** | 524.0 °C |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | Not explosive |
| **Oxidizing properties** | The substance or mixture is not classified as oxidizing. |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions. |
| **Incompatibilities** | Acids, Bases, Oxidizing agents, Reducing agents, Alkali metals |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Heat, flames and sparks. Extremes of temperature and direct sunlight. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | LD50 Oral - rat - male - 1.320 - 6.690 mg/kg<br>LC50 Inhalation - mouse - 4 h - 3587 ppm (OECD Test Guideline 403)<br>LC50 Inhalation - rat - 4 h - 26,8 mg/l<br>LD50 Dermal - rabbit - male and female - > 2.000 mg/kg (OECD Test Guideline 402) |
| **Skin corrosion/irritation** | Skin – rabbit Result: No skin irritation (OECD Test Guideline 404) |

| | |
|---|---|
| **Serious eye damage/irritation** | Eyes – rabbit Result: Irritating to eyes. (OECD Test Guideline 405) |
| **Respiratory/skin sensitization** | Buehler Test - guinea pig Did not cause sensitisation on laboratory animals. (OECD Test Guideline 406) |
| **Germ cell mutagenicity** | no data available |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | Animal testing did not show any effects on fertility. |
| **Specific target organ toxicity** | Single exposure **:** The substance or mixture is not classified as specific target organ toxicant,single exposure. |
| **Specific target organ toxicity** | Repeated exposure**:** The substance or mixture is not classified as specific target organ toxicant, repeated exposure. |
| **Aspiration hazard** | No aspiration toxicity classification |
| **RTECS** | AL7700000 |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 - Pimephales promelas (fathead minnow) - 1.640,00 mg/l - 96 h<br>NOEC - Oryzias latipes - 102 mg/l - 21 d |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 3.600 mg/l - 48 h<br>(OECD Test Guideline 202)<br>NOEC - Daphnia magna (Water flea) - 160 mg/l - 21 d |
| **Persistence/degradation** | |
| | Biodegradability Result: 84 % - Readily biodegradable.<br>(OECD Test Guideline 301C) |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1648 |
| **Proper shipping name** | Acetonitrile |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Safety, health and environmental regulations/legislation specific for the substance/mixture :**no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | **Acetonitrile** for preparative HPLC |
| **Cat No.** | HP0003 |
| **CAS-No.** | 75-05-8 |
| **M.W.** | 41.05 |
| **EC-No.** | 200-835-2 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 75-05-8 |
| **Percent** | >99.8% |
| **Substance/Mixture** | Substance |
| **Synonym** | Methyl cyanide ; Cyanomethane |
| **Chemical Formula** | $CH_3CN$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Acute toxicity, Oral | (Category 4) |
| Acute toxicity, Inhalation | (Category 4) |
| Acute toxicity, Dermal | (Category 4) |
| Eye irritation | (Category 2) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word**

Danger

**Hazard statement(s)**

H225 Highly flammable liquid and vapour.
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled
H319 Causes serious eye irritation.

**Precautionary statement(s)**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280 Wear protective gloves/ protective clothing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides, nitrogen oxides (NOx) |
| **Advice for firefighters** | Wear personal protective equipmentfor fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing |

| | |
|---|---|
| | vapours, mist or gas. Ensure adequate ventilation.Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep insuitable, closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes.Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use.Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination.If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear colourless liquid |
| **Odour** | ether-like |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | -45.7°C at 1.013 hPa |
| **Boiling point/range** | 80-83°C |
| **Flash point** | 2.0°C -closed cup |
| **Evapouration rate** | 5.8 |
| **Vapour pressure** | 73,18 hPa at 15 °C<br>121.44 hPa at 25 °C<br>413.23 hPa at 55 °C<br>98.64 hPa at 20 °C |
| **Vapour density** | 1.42 - (Air = 1.0) |
| **Relative density** | 0.780-0.783g |
| **Water solubility** | completely miscible |
| **LogPow** | -0.54 at 25 °C |
| **Auto-ignition temperature** | 524.0 °C |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | Not explosive |
| **Oxidizing properties** | The substance or mixture is not classified as oxidizing. |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions. |
| **Incompatibilities** | Acids, Bases, Oxidizing agents, Reducing agents, Alkali metals |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Heat, flames and sparks. Extremes of temperature and direct sunlight. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | LD50 Oral - rat - male - 1.320 - 6.690 mg/kg<br>LC50 Inhalation - mouse - 4 h - 3587 ppm (OECD Test Guideline 403)<br>LC50 Inhalation - rat - 4 h - 26,8 mg/l<br>LD50 Dermal - rabbit - male and female - > 2.000 mg/kg (OECD Test Guideline 402) |
| **Skin corrosion/irritation** | Skin – rabbit Result: No skin irritation (OECD Test Guideline 404) |

| | |
|---|---|
| **Serious eye damage/irritation** | Eyes – rabbit Result: Irritating to eyes. (OECD Test Guideline 405) |
| **Respiratory/skin sensitization** | Buehler Test - guinea pig Did not cause sensitisation on laboratory animals. (OECD Test Guideline 406) |
| **Germ cell mutagenicity** | no data available |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | Animal testing did not show any effects on fertility. |
| **Specific target organ toxicity** | Single exposure **:** The substance or mixture is not classified as specific target organ toxicant,single exposure. |
| **Specific target organ toxicity** | Repeated exposure**:** The substance or mixture is not classified as specific target organ toxicant, repeated exposure. |
| **Aspiration hazard** | No aspiration toxicity classification |
| **RTECS** | AL7700000 |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 - Pimephales promelas (fathead minnow) - 1.640,00 mg/l - 96 h<br>NOEC - Oryzias latipes - 102 mg/l - 21 d |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 3.600 mg/l - 48 h<br>(OECD Test Guideline 202)<br>NOEC - Daphnia magna (Water flea) - 160 mg/l - 21 d |
| **Persistence/degradation** | |
| | Biodegradability Result: 84 % - Readily biodegradable.<br>(OECD Test Guideline 301C) |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1648 |
| **Proper shipping name** | Acetonitrile |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Safety, health and environmental regulations/legislation specific for the substance/mixture :**no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

Chemistry beyond chemicals

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Acetonitrile for HPLC Gradient Grade |
| **Cat No.** | HP0005 |
| **CAS-No.** | 75-05-8 |
| **M.W.** | 41.05 |
| **EC-No.** | 200-835-2 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 75-05-8 |
| **Percent** | >99.9% |
| **Substance/Mixture** | Substance |
| **Synonym** | Methyl cyanide ; Cyanomethane |
| **Chemical Formula** | $CH_3CN$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Acute toxicity, Oral | (Category 4) |
| Acute toxicity, Inhalation | (Category 4) |
| Acute toxicity, Dermal | (Category 4) |
| Eye irritation | (Category 2) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

H225 Highly flammable liquid and vapour.
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled
H319 Causes serious eye irritation.

**Precautionary statement(s)**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280 Wear protective gloves/ protective clothing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides, nitrogen oxides (NOx) |
| **Advice for firefighters** | Wear personal protective equipmentfor fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation.Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep insuitable, closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes.Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use.Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination.If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear colourless liquid |
| **Odour** | ether-like |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | -45.7°C at 1.013 hPa |
| **Boiling point/range** | 80-83°C |
| **Flash point** | 2.0°C -closed cup |
| **Evapouration rate** | 5.8 |
| **Vapour pressure** | 73,18 hPa at 15 °C<br>121.44 hPa at 25 °C<br>413.23 hPa at 55 °C<br>98.64 hPa at 20 °C |
| **Vapour density** | 1.42 - (Air = 1.0) |
| **Relative density** | 0.780-0.783g |
| **Water solubility** | completely miscible |
| **LogPow** | -0.54 at 25 °C |
| **Auto-ignition temperature** | 524.0 °C |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | Not explosive |
| **Oxidizing properties** | The substance or mixture is not classified as oxidizing. |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions. |
| **Incompatibilities** | Acids, Bases, Oxidizing agents, Reducing agents, Alkali metals |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Heat, flames and sparks. Extremes of temperature and direct sunlight. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | LD50 Oral - rat - male - 1.320 - 6.690 mg/kg<br>LC50 Inhalation - mouse - 4 h - 3587 ppm (OECD Test Guideline 403)<br>LC50 Inhalation - rat - 4 h - 26,8 mg/l |

| | |
|---|---|
| | LD50 Dermal - rabbit - male and female - > 2.000 mg/kg (OECD Test Guideline 402) |
| **Skin corrosion/irritation** | Skin – rabbit Result: No skin irritation (OECD Test Guideline 404) |
| **Serious eye damage/irritation** | Eyes – rabbit Result: Irritating to eyes. (OECD Test Guideline 405) |
| **Respiratory/skin sensitization** | Buehler Test - guinea pig Did not cause sensitisation on laboratory animals. (OECD Test Guideline 406) |
| **Germ cell mutagenicity** | no data available |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | Animal testing did not show any effects on fertility. |
| **Specific target organ toxicity** | Single exposure : The substance or mixture is not classified as specific target organ toxicant,single exposure. |
| **Specific target organ toxicity** | Repeated exposure: The substance or mixture is not classified as specific target organ toxicant, repeated exposure. |
| **Aspiration hazard** | No aspiration toxicity classification |
| **RTECS** | AL7700000 |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 - Pimephales promelas (fathead minnow) - 1.640,00 mg/l - 96 h<br>NOEC - Oryzias latipes - 102 mg/l - 21 d |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 3.600 mg/l - 48 h<br>(OECD Test Guideline 202)<br>NOEC - Daphnia magna (Water flea) - 160 mg/l - 21 d |
| **Persistence/degradation** | |
| | Biodegradability Result: 84 % - Readily biodegradable.<br>(OECD Test Guideline 301C) |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1648 |
| **Proper shipping name** | Acetonitrile |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Safety, health and environmental regulations/legislation specific for the substance/mixture :**no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Ammonium Acetate For HPLC |
| **Cat No.** | HP0009 |
| **CAS-No.** | 631-61-8 |
| **M.W.** | 77.08 |
| **EC-No.** | 211-162-9 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 631-61-8 |
| **Percent** | >99.0% |
| **Substance/Mixture** | Substance |
| **Synonym** | Acetic Acid Ammonium Salt |
| **Chemical Formula** | $CH_3COONH_4$ |

## SECTION 3: HAZARDS IDENTIFICATION

This product is not classified as dangerous or hazardous substance/mixture.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides, nitrogen oxides (NOx). |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## ECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | colourless hygroscopic crystals |
| **Odour** | no data available |
| **Odour Threshold** | no data available |
| **pH** | 6.5-7.5 |
| **Melting/freezing point** | 110 - 112 °C |
| **Boiling point/range** | no data available |
| **Flash point** | no data available |
| **Evapouration rate** | no data available |
| **Vapour pressure** | no data available |
| **Vapour density** | no data available |
| **Relative density** | no data available |
| **Water solubility** | completely soluble |
| **LogPow** | no data available |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions. |
| **Incompatibilities** | Strong oxidizing agents, Strong acids. |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | no data available |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | no data available |
| **Serious eye damage/irritation** | no data available |
| **Respiratory/skin sensitization** | no data available |
| **Germ cell mutagenicity** | no data available |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure **:** no data available |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 - Cyprinus carpio (Carp) - 56 mg/l - 48 h |
| Toxicity to daphnia and other aquatic invertebrates | no data available |
| **Persistence/degradation** | Biodegradability Result: - Readily biodegradable. |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | - |
| **Proper shipping name** | Not dangerous goods |
| **Hazard class** | - |
| **Packaging group** | - |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Safety, health and environmental regulations/legislation specific for the substance/mixture :**no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Benzene for HPLC & Spectroscopy |
| **Cat No.** | HP0051 |
| **CAS-No.** | 71-43-2 |
| **M.W.** | 78.11 |
| **EC-No.** | 200-753-7 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 71-43-2 |
| **Percent** | >99.8% |
| **Substance/Mixture** | Substance |
| **Synonym** | - |
| **Chemical Formula** | $C_6H_6$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Skin irritation | (Category 2) |
| Eye irritation | (Category 2) |
| Germ cell mutagenicity | (Category 1B) |
| Carcinogenicity | (Category 1A) |
| Specific target organ toxicity - repeated exposure | (Category 1) |
| Aspiration hazard | (Category 1) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H340 | May cause genetic defects. |
| H350 | May cause cancer. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |

**Precautionary statement(s)**

| | |
|---|---|
| P201 | Obtain special instructions before use. |
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| P331 | Do NOT induce vomiting. |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear,colourless liquid |
| **Odour** | no data available |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | 5.5 °C |
| **Boiling point/range** | 79-81°C |
| **Flash point** | -11.0 °C - closed cup |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 221.3 hPa at 37.7 °C<br>99.5 hPa at 20.0 °C |
| **Vapour density** | no data available |
| **Relative density** | 0.875-0.879g |
| **Water solubility** | no data available |
| **LogPow** | no data available |
| **Auto-ignition temperature** | 562.0 °C |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions. |
| **Incompatibilities** | Acids, Bases, Halogens, Strong oxidizing agents, Metallic salts |
| **Hazardous decomposition** | no data available |

| | |
|---|---|
| **products** | |
| **Conditions to avoid** | Heat, flames and sparks. Extremes of temperature and direct sunlight. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | Skin – rabbit Result: Skin irritation |
| **Serious eye damage/irritation** | Eyes – rabbit Result: Eye irritation |
| **Respiratory/skin sensitization** | no data available |
| **Germ cell mutagenicity** | Laboratory experiments have shown mutagenic effects.<br>In vivo tests showed mutagenic effects<br><br>Human<br>lymphocyte<br>Sister chromatid exchange<br><br>mouse<br>lymphocyte<br>Mutation in mammalian somatic cells.<br><br>mouse<br>Sister chromatid exchange |
| **Carcinogenicity** | Carcinogenicity - Human - male - Inhalation<br>Tumorigenic:Carcinogenic by RTECS criteria. Leukaemia Blood:Thrombocytopenia.<br>Carcinogenicity - rat - Oral<br>Tumorigenic:Carcinogenic by RTECS criteria. Endocrine:Tumors. Leukaemia<br>This is or contains a component that has been reported to be carcinogenic based on its IARC, OSHA,ACGIH, NTP, or EPA classification.<br>Human carcinogen.<br>IARC: 1 - Group 1: Carcinogenic to humans (Benzene) |
| **Reproductive toxicity** | Reproductive toxicity - mouse - Intraperitoneal<br>Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or Fetus: Fetal death.<br><br>Developmental Toxicity - rat - Inhalation<br>Effects on Embryo or Fetus: Extra embryonic structures (e.g., placenta, umbilical cord).<br>Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).<br><br>Developmental Toxicity - mouse - Inhalation<br>Effects on Embryo or Fetus: Cytological changes (including somatic cell genetic material).<br>Specific Developmental Abnormalities: Blood and lymphatic system (including spleen and marrow). |
| **Specific target organ toxicity** | Single exposure **:** no data available |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | May be fatal if swallowed and enters airways. |
| **RTECS** | CY1400000 |

## SECTION 12: ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity** | |
| Toxicity to fish | LC50 - Oncorhynchus mykiss (rainbow trout) - 5,90 mg/l - 96 h<br>LC50 - Pimephales promelas (fathead minnow) - 15,00 - 32,00 mg/l - 96 h<br>LC50 - Lepomis macrochirus (Bluegill) - 230,00 mg/l - 96 h<br>NOEC - Pimephales promelas (fathead minnow) - 10,2 mg/l - 7 d<br>LOEC - Pimephales promelas (fathead minnow) - 17,2 mg/l - 7 d |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 22,00 mg/l - 48 h<br>EC50 - Daphnia magna (Water flea) - 9,20 mg/l - 48 h |
| Toxicity to algae | EC50 - Pseudokirchneriella subcapitata (green algae) - 29,00 mg/l - 72 h |
| **Persistence/degradation** | Biodegradability Result: - Readily biodegradable. |
| **Environmental** | Toxic to aquatic life. |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.

There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1114 |
| **Proper shipping name** | Benzene |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Safety, health and environmental regulations/legislation specific for the substance/mixture :**no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Chloroform for HPLC & Spectroscopy |
| **Cat No.** | HP0075 |
| **CAS-No.** | 67-66-3 |
| **M.W.** | 119.38 |
| **EC-No.** | 200-663-8 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 67-66-3 |
| **Percent** | >99.0% |
| **Substance/Mixture** | Substance |
| **Synonym** | Trichloromethane ;Methyl trichloride |
| **Chemical Formula** | $CHCl_3$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Acute toxicity, Oral | (Category 4) |
| Acute toxicity, Inhalation | (Category 3) |
| Skin irritation | (Category 2) |
| Eye irritation | (Category 2) |
| Carcinogenicity | (Category 2) |
| Reproductive toxicity | (Category 2) |
| Specific target organ toxicity - single exposure | (Category 3) |
| Specific target organ toxicity - repeated exposure | (Category 1) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H351 Suspected of causing cancer.
H361d Suspected of damaging the unborn child.
H372 Causes damage to organs (Liver, Kidney) through prolonged or repeated exposure.

**Precautionary statement(s)**

P261 Avoid breathing vapours.
P281 Use personal protective equipment as required.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P311 Call a POISON CENTER or doctor/physician.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides, Hydrogen chloride gas. |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear colourless liquid |
| **Odour** | no data available |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | -62.99 °C |
| **Boiling point/range** | 59.5-61.5°C |
| **Flash point** | no data available |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 213.3 hPa at 20.0 °C |
| **Vapour density** | no data available |
| **Relative density** | 1.474-1.480g |
| **Water solubility** | no data available |
| **LogPow** | 1.97 |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions. |
| **Incompatibilities** | Strong oxidizing agents, Strong bases, Magnesium, Sodium/sodium oxides, Lithium. |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | no data available |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | | |
|---|---|---|
| **Skin corrosion/irritation** | Skin – Rabbit | Result: Irritating to skin. - 24 h |
| **Serious eye damage/irritation** | Eyes – Rabbit | Result: Irritating to eyes. - 24 h |
| **Respiratory/skin sensitization** | Did not cause sensitisation on laboratory animals. | |
| **Germ cell mutagenicity** | Laboratory experiments have shown mutagenic effects. | |
| **Carcinogenicity** | Carcinogenicity - Rat - Oral<br>Tumorigenic:Carcinogenic by RTECS criteria. Leukaemia<br>The National Cancer Institute (NCI) has found clear evidence for carcinogenicity.<br>Limited evidence of a carcinogenic effect.<br>IARC: 2B - Group 2B: Possibly carcinogenic to humans (Chloroform) | |
| **Reproductive toxicity** | Suspected of damaging the unborn child. Suspected human reproductive toxicant. | |
| **Specific target organ toxicity** | Single exposure **:** May cause drowsiness or dizziness. | |
| **Specific target organ toxicity** | Repeated exposure**:** The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1. -Liver, Kidney | |
| **Aspiration hazard** | no data available | |
| **RTECS** | FS9100000 | |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 - Leuciscus idus (Golden orfe) - 162 mg/l - 48 h<br>LC100 - Leuciscus idus (Golden orfe) - 220 mg/l - 48 h<br>LC50 - other fish - 97 mg/l - 96 h<br>LC50 - Danio rerio (zebra fish) - 121 mg/l - 96 h<br>NOEC - Oryzias latipes - 122 mg/l - 10 d<br>NOEC - Oncorhynchus mykiss (rainbow trout) - 24 mg/l - 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 79,00 mg/l - 24 h<br>Immobilization EC50 - Daphnia magna (Water flea) - 51,6 mg/l - 48 h<br>NOEC - Daphnia magna (Water flea) - 120 mg/l - 11 d |
| Toxicity to algae | EC50 - No information available. - 500,00 mg/l - 24 h |
| **Persistence/degradation** | Bioaccumulation Lepomis macrochirus (Bluegill) - 14 d<br>- 0,11 mg/l<br>Bioconcentration factor (BCF): 6 |
| **Environmental** | Harmful to aquatic life. |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1888 |
| **Proper shipping name** | Chloroform |
| **Hazard class** | 6.1 |
| **Packaging group** | III |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Safety, health and environmental regulations/legislation specific for the substance/mixture :**no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

# Material Safety Data Sheet

**Chemistry beyond chemicals**

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# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Citric Acid Monohydrate for HPLC & Spectroscopy |
| **Cat No.** | HP0080 |
| **CAS-No.** | 5949-29-1 |
| **M.W.** | 210.14 |
| **EC-No.** | |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 5949-29-1 |
| **Percent** | >99.70% |
| **Substance/Mixture** | Substance |
| **Synonym** | - |
| **Chemical Formula** | $C(OH)(COOH)(CH_2COOH)_2.H_2O$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

Eye irritation (Category 2)

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word**

Warning

**Hazard statement(s)**

H319 Causes serious eye irritation.

**Precautionary statement(s)**

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Risk Phrases**

R36 Irritating to eyes.

**Safety Phrases**

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. Store at < 30°C & keep in dry place |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | colourless crystal/crystalline powder |
| **Odour** | Odourless |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | 135-152 °C |
| **Boiling point/range** | no data available |
| **Flash point** | no data available |
| **Evapouration rate** | no data available |
| **Vapour pressure** | < 0.1 hPa at 20 °C |
| **Vapour density** | no data available |
| **Relative density** | no data available |
| **Water solubility** | ca.1,630 g/l at 20 °C |
| **LogPow** | -1.72 |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | > 170 °C |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Risk of dust explosion. |
| **Stability** | releases water of crystallisation when heated. |
| **Incompatibilities** | Metals |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Temperatures above melting point. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | Rabbit Result: No irritation |
| **Serious eye damage/irritation** | Rabbit Result: Severe irritations |
| **Respiratory/skin sensitization** | no data available |
| **Germ cell mutagenicity** | Genotoxicity in vitro Ames test Result: negative |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** no data available |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 Leuciscus idus (Golden orfe): 440 - 760 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 Daphnia magna (Water flea): ca. 120 mg/l; 72 h |

| | |
|---|---|
| **Persistence/degradation** | Biodegradability 98 %; 2 d Readily eliminated from water |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | - |
| **Proper shipping name** | Not Dangerous good. |
| **Hazard class** | - |
| **Packaging group** | - |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Cyclohexane for HPLC & Spectroscopy |
| **Cat No.** | HP0076 |
| **CAS-No.** | 110-82-7 |
| **M.W.** | 84.16 |
| **EC-No.** | 203-806-2 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 110-82-7 |
| **Percent** | 99.7% |
| **Substance/Mixture** | Substance |
| **Synonym** | - |
| **Chemical Formula** | $CH_2.(CH_2)_4.CH_2$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquid | Category 2 |
| Skin irritation | Category 2 |
| Specific target organ toxicity - single exposure | Category 3 |
| Aspiration hazard | Category 1 |
| Acute aquatic toxicity | Category 1 |
| Chronic aquatic toxicity | Category 1 |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H336 | May cause drowsiness or dizziness. |
| H410 | Very toxic to aquatic life with long lasting effects. |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P273 | Avoid release to the environment. |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. |
| P331 | Do NOT induce vomiting. |
| P501 | Dispose of contents/container to..... |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | no data available |

| | |
|---|---|
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | Clear colorless liquid. |
| **Odour** | Sweet |
| **Odour Threshold** | 0.5 ppm |
| **pH** | no data available |
| **Melting/freezing point** | 6-7º C |
| **Boiling point/range** | 80-81º C |
| **Flash point** | -18 °C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 124 hPa at 24 °C |
| **Vapour density** | 2.9 |
| **Relative density** | 0.777-0.779 g |
| **Water solubility** | 0.05 g/l at 20 °C |
| **LogPow** | 3.44 |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | 0.98 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Vapours may form explosive mixture with air. |
| **Stability** | The product is chemically stable under standard ambient conditions (room temperature). |
| **Incompatibilities** | rubber, various plastics |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Warming. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | Acute oral toxicity: LD50 Rat: > 5,000 mg/kg<br>Acute inhalation toxicity: LC50 Rat: > 33.88 mg/l; 4 h<br>Acute dermal toxicity: LD50 Rabbit: > 2,000 mg/kg |

| | |
|---|---|
| **Skin corrosion/irritation** | Causes skin irritation. |
| **Serious eye damage/irritation** | Rabbit Result: No eye irritation |
| **Respiratory/skin sensitization** | Buehler Test Guinea pig Result: Does not cause skin sensitisation. |
| **Germ cell mutagenicity** | Genotoxicity in vivo: Chromosome aberration test Rat male and female inhalation (vapour) Bone marrow Result: negative<br>Genotoxicity in vitro: Ames test Salmonella typhimurium Result: negative |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** May cause drowsiness or dizziness. |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | Aspiration hazard, Aspiration may cause pulmonary oedema and pneumonitis. |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish: | flow-through test LC50 Pimephales promelas : 4.53 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates: | static test EC50 Daphnia magna (Water flea): 0.9 mg/l; 48 h |
| **Persistence/degradation** | Biodegradability 77 %; 28 d; Readily biodegradable |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1145 |
| **Proper shipping name** | CYCLOHEXANE |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Dichloro Methane for HPLC & Spectroscopy |
| **Cat No.** | HP0101 |
| **CAS-No.** | 75-09-2 |
| **M.W.** | 84.93 |
| **EC-No.** | 200-838-9 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | Methylene Chloride |
| **CAS No.** | 75-09-2 |
| **Percent** | >99.7% |
| **Substance/Mixture** | Substance |
| **Synonym** | Methylene Chloride |
| **Chemical Formula** | $CH_2Cl_2$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Skin irritation | (Category 2) |
| Eye irritation | (Category 2) |
| Carcinogenicity | (Category 2) |
| Specific target organ toxicity - single exposure | (Category 3) |
| Specific target organ toxicity - repeated exposure, Oral | (Category 2) |
| Specific target organ toxicity - repeated exposure, Inhalation | (Category 2) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Warning

**Hazard statement(s)**

| | |
|---|---|
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness. |
| H351 | Suspected of causing cancer. |
| H373 | May cause damage to organs (Liver, Blood) through prolonged or repeated exposure if swallowed. |

**Precautionary statement(s)**

| | |
|---|---|
| P261 | Avoid breathing vapours. |
| P281 | Use personal protective equipment as required. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

**Risk Phrases**

| | |
|---|---|
| R36/37/38 | Irritating to eyes, respiratory system and skin. |
| R40 | Limited evidence of a carcinogenic effect. |
| R67 | Vapours may cause drowsiness and dizziness. |

**Safety Phrases**

| | |
|---|---|
| S23 | Do not breathe vapour. |
| S24/25 | Avoid contact with skin and eyes. |
| S36/37 | Wear suitable protective clothing and gloves. |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |

| | |
|---|---|
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Hydrogen chloride gas, Phosgene |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear colourless liquid |
| **Odour** | Sweet |
| **Odour Threshold** | 24.9 - 611.7 ppm |
| **pH** | at 20 °C neutral |
| **Melting/freezing point** | -95.0 °C |
| **Boiling point/range** | 40 °C at 1,013 hPa |
| **Flash point** | no data available |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 475 hPa at 20 °C |
| **Vapour density** | 2.93 |
| **Relative density** | no data available |
| **Water solubility** | 20 g/l at 20 °C |
| **LogPow** | 1.25 |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | > 120 °C |
| **Viscosity** | 0.43 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Sensitivity to light<br>Stabilizer, 2-methyl-2-butene |
| **Incompatibilities** | rubber, various plastics, Light metals, Metals, Mild steel |
| **Hazardous decomposition products** | Hydrogen chloride gas, Phosgene |
| **Conditions to avoid** | no data available |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | Rabbit Result: Irritations |
| **Serious eye damage/irritation** | Rabbit Result: Eye Irritations |
| **Respiratory/skin sensitization** | Local lymph node assay (LLNA) Mouse Result: negative |
| **Germ cell mutagenicity** | Genotoxicity in vitro Mutagenicity (mammal cell test): chromosome aberration. Result: positive |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** May cause respiratory irritation. May cause drowsiness or dizziness. |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | flow-through test LC50 Pimephales promelas (fathead minnow): 193 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | static test EC50 Daphnia magna (Water flea): 27 mg/l; 48 h |
| **Persistence/degradation** | Biodegradability 68 %; 28 d; aerobic Readily biodegradable |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1593 |
| **Proper shipping name** | Dichloro Methane |
| **Hazard class** | 6.1 |
| **Packaging group** | III |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Di-Potassium Hydrogen Orthophosphate Anhydrous for HPLC & Spectroscopy |
| **Cat No.** | HP0225 |
| **CAS-No.** | 7758-11-4 |
| **M.W.** | 174.18 |
| **EC-No.** | - |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 7758-11-4 |
| **Percent** | > 99.0% |
| **Substance/Mixture** | Substance |
| **Synonym** | Potassium phosphate dibasic |
| **Chemical Formula** | $K_2HPO_4$ |

## SECTION 3: HAZARDS IDENTIFICATION

This product is not classified as dangerous or hazardous substance/mixture.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Oxides of phosphorus |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## ECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | white crystals/crystalline powder |
| **Odour** | odourless |
| **Odour Threshold** | no data available |
| **pH** | ca.9 at 10 g/l 20 °C |
| **Melting/freezing point** | no data available |
| **Boiling point/range** | no data available |
| **Flash point** | no data available |
| **Evapouration rate** | no data available |
| **Vapour pressure** | no data available |
| **Vapour density** | no data available |
| **Relative density** | 2,300 g/cm$^3$ |
| **Water solubility** | 1,600 g/l at 20 °C |
| **LogPow** | no data available |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | > 180 °C |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | The product is chemically stable under standard ambient conditions (room temperature) |
| **Incompatibilities** | Strong oxidizing agents. |
| **Hazardous decomposition products** | Oxides of phosphorus |
| **Conditions to avoid** | no data available |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | slight irritation |
| **Serious eye damage/irritation** | slight irritation |
| **Respiratory/skin sensitization** | no data available |
| **Germ cell mutagenicity** | Genotoxicity in vitro Ames test Result: negative |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** no data available |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | no data available |
| Toxicity to daphnia and other aquatic invertebrates | no data available |
| **Persistence/degradation** | no data available |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | - |
| **Proper shipping name** | Not dangerous goods |
| **Hazard class** | - |
| **Packaging group** | - |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | di-Sodium Hydrogen Orthophosphate dihydrate |
| **Cat No.** | HP0263 |
| **CAS-No.** | 10028-24-7 |
| **M.W.** | 177.99 |
| **EC-No.** | 231-448-7 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 10028-24-7 |
| **Percent** | 99.0% |
| **Substance/Mixture** | Substance |
| **Synonym** | Sodium phosphate dibasic dihydrate |
| **Chemical Formula** | $Na_2HPO_4$ $2H_2O$ |

## SECTION 3: HAZARDS IDENTIFICATION

This product is not classified as dangerous or hazardous substance/mixture.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do Not induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Oxides of phosphorus, Sodium oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Absorb/Contain spillage in a suitable absorbent (eg. Dry powder, rag, saw-dust), the collected material shall be placed in a container for disposal according to appropriate laws and regulations. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | No smoking. Keep away from sources of ignition. Avoid contact with skin and eyes. Wash hands and face thoroughly after handling. Avoid inhalation of vapour or mist. Wear suitable protective equipment. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |

| | |
|---|---|
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination.If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | A white powder. |
| **Odour** | Odourless |
| **Odour Threshold** | no data available |
| **pH** | 8.8-9.4 |
| **Melting/freezing point** | 92.5 °C Elimination of water of crystallisation |
| **Boiling point/range** | no data available |
| **Flash point** | does not flash |
| **Evapouration rate** | no data available |
| **Vapour pressure** | no data available |
| **Vapour density** | no data available |
| **Relative density** | no data available |
| **Water solubility** | 93 g/l at 20 °C |
| **LogPow** | no data available |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | ca.95 °C |
| **Viscosity** | no data available |
| **Explosive properties** | Not applicable |
| **Oxidizing properties** | none |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Exothermic reaction with: Strong acids, antipyrine, acetates |
| **Stability** | Stable under recommended storage conditions |
| **Incompatibilities** | Strong oxidizing agents |
| **Hazardous decomposition products** | Hazardous decomposition products formed under fire conditions. - Oxides of phosphorus, Sodium oxides<br>Other decomposition products - No data available |
| **Conditions to avoid** | no data available |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute oral toxicity** | LD50 Rat: > 2,000 mg/kg OECD Test Guideline 401 |
| **Skin corrosion/irritation** | no data available |
| **Serious eye damage/irritation** | no data available |
| **Respiratory/skin sensitization** | no data available |
| **Germ cell mutagenicity** | no data available |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** no data available |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | no data available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 Gambusia affinis (Mosquito fish): 467 mg/l; 48 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 Daphnia magna (Water flea): 1,089 mg/l; 48 h |
| **Persistence/degradation** | no data available |
| **Environmental** | Discharge into the environment must be avoided. |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a

hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | - |
| **Proper shipping name** | Not Dangerous good |
| **Hazard class** | - |
| **Packaging group** | - |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.
Please read all labels carefully before using product.
*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

Chemistry beyond chemicals

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Ethyl Acetate for HPLC & Spectroscopy |
| **Cat No.** | HP0126 |
| **CAS-No.** | 141-78-6 |
| **M.W.** | 88.11 |
| **EC-No.** | 205-500-4 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 141-78-6 |
| **Percent** | 99.7% |
| **Substance/Mixture** | Substance |
| **Synonym** | Acetic acid ethyl ester |
| **Chemical Formula** | $CH_3.COOC_2H_5$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Eye irritation | (Category 2) |
| Specific target organ toxicity - single exposure | (Category 3) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

**Precautionary statement(s)**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing vapours.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | no data available |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | Clear colourless liquid |
| **Odour** | Fruity odour |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | -84 °C |
| **Boiling point/range** | 76-78 °C |
| **Flash point** | -2.99 °C - closed cup |
| **Evapouration rate** | no data available |
| **Vapour pressure** | no data available |
| **Vapour density** | no data available |
| **Relative density** | 0.899-0.901g |
| **Water solubility** | Soluble |
| **LogPow** | 0.73 |
| **Auto-ignition temperature** | 427.0 °C |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions. |
| **Incompatibilities** | Strong oxidizing agents |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Heat, flames and sparks. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | Skin - Rabbit Result: Mild skin irritation (OECD Test Guideline 404) |
| **Serious eye damage/irritation** | no data available |
| **Respiratory/skin sensitization** | no data available |
| **Germ cell mutagenicity** | no data available |
| **Carcinogenicity** | This product is or contains a component that is not classifiable as to its carcinogenicity based |

| | |
|---|---|
| | on its IARC,ACGIH, NTP, or EPA classification.<br>IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure : May cause drowsiness or dizziness. |
| **Specific target organ toxicity** | Repeated exposure: no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | AH5425000 |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 - Oncorhynchus mykiss (rainbow trout) - 350,00 - 600,00 mg/l - 96 h<br>LC50 - Pimephales promelas (fathead minnow) - 220,00 - 250,00 mg/l - 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 2.300,00 - 3.090,00 mg/l - 24 h<br>LC50 - Daphnia magna (Water flea) - 560 mg/l - 48 h |
| Toxicity to algae | EC50 - Algae - 4.300,00 mg/l - 24 h<br>EC50 - SELENASTRUM - 1.800,00 - 3.200,00 mg/l - 72 h |
| **Persistence/degradation** | Biodegradability Result: 79 % - Readily biodegradable<br>(OECD Test Guideline 301D) |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1173 |
| **Proper shipping name** | Ethyl Acetate |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Safety, health and environmental regulations/legislation specific for the substance/mixture :**no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Hexane for HPLC & Spectroscopy |
| **Cat No.** | HP0178 |
| **CAS-No.** | 110-54-3 |
| **M.W.** | 86.18 |
| **EC-No.** | 203-777-6 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 110-54-3 |
| **Percent** | - |
| **Substance/Mixture** | Substance |
| **Synonym** | - |
| **Chemical Formula** | $C_6H_{14}$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Skin irritation | (Category 2) |
| Reproductive toxicity | (Category 2) |
| Specific target organ toxicity - single exposure | (Category 3) |
| Specific target organ toxicity - repeated exposure | (Category 2) |
| Aspiration hazard | (Category 1) |
| Chronic aquatic toxicity | (Category 2) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word**

Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H336 | May cause drowsiness or dizziness. |
| H361f | Suspected of damaging fertility. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H411 | Toxic to aquatic life with long lasting effects. |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P261 | Avoid breathing vapours. |
| P273 | Avoid release to the environment. |
| P281 | Use personal protective equipment as required. |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. |
| P331 | Do NOT induce vomiting. |

**Risk Phrases**

| | |
|---|---|
| R11 | Highly flammable. |
| R38 | Irritating to skin. |
| R48/20 | Harmful: danger of serious damage to health by prolonged exposure through inhalation. |
| R51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R62 | Possible risk of impaired fertility. |
| R65 | Harmful: may cause lung damage if swallowed. |
| R67 | Vapours may cause drowsiness and dizziness. |

**Safety Phrases**

| | |
|---|---|
| S9 | Keep container in a well-ventilated place. |

| | |
|---|---|
| S16 | Keep away from sources of ignition. |
| S29 | Do not empty into drains. |
| S33 | Take precautionary measures against static discharges. |
| S36/37 | Wear suitable protective clothing and gloves. |
| S61 | Avoid release to the environment. Refer to special instructions/safety data sheets. |
| S62 | If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label. |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | no data available |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clea, colourless liquid |
| **Odour** | benzine-like |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | -94.3ºC |
| **Boiling point/range** | 69 °C at 1,013 hPa |
| **Flash point** | -22 °C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 160 hPa at 20 °C |
| **Vapour density** | 2.79 |
| **Relative density** | 0.658-0.659g |
| **Water solubility** | 0.0095 g/l at 20 °C |
| **LogPow** | 4.11 |

| | |
|---|---|
| **Auto-ignition temperature** | 234.0 °C |
| **Decomposition temperature** | no data available |
| **Viscosity** | 0.326 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Vapours may form explosive mixture with air. |
| **Stability** | The product is chemically stable under standard ambient conditions (room temperature). |
| **Incompatibilities** | rubber, various plastics |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Warming. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | Causes skin irritation. |
| **Serious eye damage/irritation** | Risk of corneal clouding. |
| **Respiratory/skin sensitization** | no data available |
| **Germ cell mutagenicity** | Genotoxicity in vivo Micronucleus test Result: negative |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** May cause drowsiness or dizziness. |
| **Specific target organ toxicity** | Repeated exposure**:** May cause damage to organs through prolonged or repeated exposure. |
| **Aspiration hazard** | no data available |
| **RTECS** | MN9275000 |

## SECTION 12: ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity** | |
| Toxicity to fish | LC50 Pimephales promelas (fathead minnow): 2.5 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 Daphnia magna (Water flea): 2.1 mg/l; 48 h |
| **Persistence/degradation** | no data available |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1208 |
| **Proper shipping name** | Hexane |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Iso-Butyl methyl ketone |
| **Cat No.** | HP0184 |
| **CAS-No.** | 108-10-1 |
| **M.W.** | 100.16 |
| **EC-No.** | 203-550-1 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 108-10-1 |
| **Percent** | >99.5% |
| **Substance/Mixture** | Substance |
| **Synonym** | Methyl iso butyl ketone |
| **Chemical Formula** | $C_6H_{12}O$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Acute toxicity, Inhalation | (Category 4) |
| Eye irritation | (Category 2) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking |
| P261 | Avoid breathing vapours. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides. |
| **Advice for firefighters** | Wear personal protective equipment for firefighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination.If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear liquid |
| **Odour** | no data available |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | Melting point/range: -80 °C |
| **Boiling point/range** | 117 - 118 °C at 1013 hPa |
| **Flash point** | 14 °C - closed cup |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 15 mmHg at 20 °C |
| **Vapour density** | 3.46 - (Air = 1.0) |
| **Relative density** | 0.800 g/cm3 |
| **Water solubility** | ca.20 g/l |
| **LogPow** | no data available |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions. |
| **Incompatibilities** | Oxidizing agents, Strong bases. |
| **Hazardous decomposition products** | Carbon oxides |
| **Conditions to avoid** | Heat, flames and sparks. Extremes of temperature and direct sunlight. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | LD50 Oral - Rat - 2,080 mg/kg<br>LC50 Inhalation - Rat - 4 h - 8.2 - 16.4 mg/l<br>LD50 Dermal - Rabbit - > 16,000 mg/kg |
| **Skin corrosion/irritation** | Skin - Rabbit<br>Result: Mild skin irritation - 24 h |
| **Serious eye damage/irritation** | Eyes - Rabbit<br>Result: Moderate eye irritation - 24 h |
| **Respiratory/skin sensitization** | no data available |
| **Germ cell mutagenicity** | no data available |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure **:** May cause drowsiness or dizziness. |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC0 - Leuciscus idus melanotus - 480 mg/l - 48 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 1,550 - 3,623 mg/l - 24 h |

**Persistence/degradation**

| | |
|---|---|
| Biodegradability | Biotic/Aerobic - Exposure time 7 d |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1245 |
| **Proper shipping name** | Methyl iso butyl ketone |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture :**no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Methanol Gradient Grade |
| **Cat No.** | HP0203 |
| **CAS-No.** | 67-56-1 |
| **M.W.** | 32.04 |
| **EC-No.** | 200-659-6 |
| **Company** | High Purity Laboratory |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | Methyl Alcohol |
| **CAS No.** | 67-56-1 |
| **Percent** | >99.8% |
| **Substance/Mixture** | Substance |
| **Synonym** | Carbinol |
| **Chemical Formula** | $CH_3OH$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Acute toxicity, Oral | (Category 3) |
| Acute toxicity, Inhalation | (Category 3) |
| Acute toxicity, Dermal | (Category 3) |
| Specific target organ toxicity - single exposure | (Category 1) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H301 | Toxic if swallowed. |
| H311 | Toxic in contact with skin |
| H331 | Toxic if inhaled. |
| H370 | Causes damage to organs. |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and otherignition sources. No smoking. |
| P260 | Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. |
| P280 | Wear protective gloves/ protective clothing. |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. |
| P311 | Call a POISON CENTER or doctor/ physician. |

**Risk Phrases**

| | |
|---|---|
| R11 | Highly flammable. |
| R23/24/25 | Toxic by inhalation, in contact with skin and if swallowed. |
| R39/23/24/25 | Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. |

**Safety Phrases**

| | |
|---|---|
| S7 | Keep container tightly closed. |
| S16 | Keep away from sources of ignition. |
| S36/37 | Wear suitable protective clothing and gloves. |
| S45 | In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.) |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |

| | |
|---|---|
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear colourless liquid |
| **Odour** | characteristic |
| **Odour Threshold** | 10 -20000 ppm |
| **pH** | no data available |
| **Melting/freezing point** | -98 °C |
| **Boiling point/range** | 64.5 °C at 1,013 hPa |
| **Flash point** | 10 °C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 128 hPa at 20.0 °C |
| **Vapour density** | 1.11 |
| **Relative density** | 0.790-0.792g |
| **Water solubility** | at 20 °C soluble |
| **LogPow** | -0.77 |
| **Auto-ignition temperature** | 455.0 °C |
| **Decomposition temperature** | no data available |
| **Viscosity** | 0.597 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Vapours may form explosive mixture with air. |
| **Stability** | The product is chemically stable under standard ambient conditions (room temperature) |
| **Incompatibilities** | various plastics, magnesium, zinc alloys |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Warming |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | Rabbit Result: No Skin irritation |
| **Serious eye damage/irritation** | Rabbit Result: No eye irritation |
| **Respiratory/skin sensitization** | Sensitisation test: Guinea pig Result: negative |
| **Germ cell mutagenicity** | Genotoxicity in vitro Ames test Salmonella typhimurium Result: negative |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** Causes damage to organs. |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | PC1400000 |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 Lepomis macrochirus (Bluegill sunfish): 15,400 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 Daphnia magna (Water flea): > 10,000 mg/l; 48 h |
| **Persistence/degradation** | Biodegradability 99 %; 30 d Readily biodegradable |
| **Environmental** | Avoid release to the environment. |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1230 |
| **Proper shipping name** | Methanol |
| **Hazard class** | 3(6.1) |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

Chemistry beyond chemicals

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Methanol For HPLC |
| **Cat No.** | HP0201 |
| **CAS-No.** | 67-56-1 |
| **M.W.** | 32.04 |
| **EC-No.** | 200-659-6 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 67-56-1 |
| **Percent** | >99.8% |
| **Substance/Mixture** | Substance |
| **Synonym** | Methyl Alcohol , Carbinol |
| **Chemical Formula** | $CH_3OH$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Acute toxicity, Oral | (Category 3) |
| Acute toxicity, Inhalation | (Category 3) |
| Acute toxicity, Dermal | (Category 3) |
| Specific target organ toxicity - single exposure | (Category 1) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H311 Toxic in contact with skin
H331 Toxic if inhaled.
H370 Causes damage to organs.

**Precautionary statement(s)**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/ protective clothing.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P311 Call a POISON CENTER or doctor/ physician.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides |
| **Advice for firefighters** | Wear personal protective equipment |

| | |
|---|---|
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear colourless liquid |
| **Odour** | pungent |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | -98 °C |
| **Boiling point/range** | 64.0-65.5°C |
| **Flash point** | 10 °C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 130.3 hPa at 20.0 °C<br>546.6 hPa at 50.0 °C<br>169.27 hPa at 25.0 °C |
| **Vapour density** | 1.11 |
| **Relative density** | 0.790-0.792g |
| **Water solubility** | completely miscible |
| **LogPow** | -0.77 |
| **Auto-ignition temperature** | 455.0 °C at 1.013 hPa |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | Not explosive |
| **Oxidizing properties** | The substance or mixture is not classified as oxidizing. |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions. |
| **Incompatibilities** | Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids. |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Heat, flames and sparks. |

| | |
|---|---|
| **Skin corrosion/irritation** | Skin - rabbit Result: No skin irritation |
| **Serious eye damage/irritation** | Eyes - rabbit Result: No eye irritation |
| **Respiratory/skin sensitization** | Maximisation Test (GPMT) - Guinea pig<br>Does not cause skin sensitisation. |
| **Germ cell mutagenicity** | Ames test S. typhimurium Result: negative<br>in vitro assay fibroblast Result: negative<br>Mutation in mammalian somatic cells.<br>Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)<br>Mouse - male and female Result: negative |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | Damage to fetus not classifiable<br>Fertility classification not possible from current data. |
| **Specific target organ toxicity** | Single exposure: Causes damage to organs. |
| **Specific target organ toxicity** | Repeated exposure: The substance or mixture is not classified as specific target organ toxicant, repeated exposure. |
| **Aspiration hazard** | No aspiration toxicity classification |
| **RTECS** | PC1400000 |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | mortality LC50 - Lepomis macrochirus (Bluegill) - 15.400,0 mg/l - 96 h<br>NOEC - Oryzias latipes - 7.900 mg/l - 200 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - > 10.000,00 mg/l - 48 h |
| Toxicity to algae | Growth inhibition EC50 - Scenedesmus capricornutum (fresh water algae) - 22.000,0 mg/l - 96 h |
| **Persistence/degradation** | Biodegradability aerobic - Exposure time 5 dResult: 72 % - rapidly biodegradable |
| | Biochemical Oxygen Demand (BOD) 600 - 1.120 mg/g |
| | Chemical Oxygen Demand (COD) 1.420 mg/g |
| | Theoretical oxygen demand 1.500 mg/g |
| **Environmental** | Avoid release to the environment. |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1230 |
| **Proper shipping name** | Methanol |
| **Hazard class** | 3(6.1) |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture :** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Methanol for Spectroscopy |
| **Cat No.** | HP0202 |
| **CAS-No.** | 67-56-1 |
| **M.W.** | 32.04 |
| **EC-No.** | 200-659-6 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | Methyl Alcohol |
| **CAS No.** | 67-56-1 |
| **Percent** | >99.9% |
| **Substance/Mixture** | Substance |
| **Synonym** | Carbinol |
| **Chemical Formula** | $CH_3OH$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Acute toxicity, Oral | (Category 3) |
| Acute toxicity, Inhalation | (Category 3) |
| Acute toxicity, Dermal | (Category 3) |
| Specific target organ toxicity - single exposure | (Category 1) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word**

Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H301 | Toxic if swallowed. |
| H311 | Toxic in contact with skin |
| H331 | Toxic if inhaled. |
| H370 | Causes damage to organs. |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and otherignition sources. No smoking. |
| P260 | Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. |
| P280 | Wear protective gloves/ protective clothing. |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. |
| P311 | Call a POISON CENTER or doctor/ physician. |

**Risk Phrases**

| | |
|---|---|
| R11 | Highly flammable. |
| R23/24/25 | Toxic by inhalation, in contact with skin and if swallowed. |
| R39/23/24/25 | Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. |

**Safety Phrases**

| | |
|---|---|
| S7 | Keep container tightly closed. |
| S16 | Keep away from sources of ignition. |
| S36/37 | Wear suitable protective clothing and gloves. |
| S45 | In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.) |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. |

| | |
|---|---|
| | Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear colourless liquid |
| **Odour** | characteristic |
| **Odour Threshold** | 10 -20000 ppm |
| **pH** | no data available |
| **Melting/freezing point** | -98 °C |
| **Boiling point/range** | 64.5 °C at 1,013 hPa |
| **Flash point** | 10 °C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 128 hPa at 20.0 °C |
| **Vapour density** | 1.11 |
| **Relative density** | 0.790-0.792g |
| **Water solubility** | at 20 °C soluble |
| **LogPow** | -0.77 |
| **Auto-ignition temperature** | 455.0 °C |
| **Decomposition temperature** | no data available |
| **Viscosity** | 0.597 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Vapours may form explosive mixture with air. |
| **Stability** | The product is chemically stable under standard ambient conditions (room temperature) |
| **Incompatibilities** | various plastics, magnesium, zinc alloys |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Warming |

| | |
|---|---|
| **Skin corrosion/irritation** | Rabbit Result: No Skin irritation |
| **Serious eye damage/irritation** | Rabbit Result: No eye irritation |
| **Respiratory/skin sensitization** | Sensitisation test: Guinea pig Result: negative |
| **Germ cell mutagenicity** | Genotoxicity in vitro Ames test Salmonella typhimurium Result: negative |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** Causes damage to organs. |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | PC1400000 |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 Lepomis macrochirus (Bluegill sunfish): 15,400 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 Daphnia magna (Water flea): > 10,000 mg/l; 48 h |
| **Persistence/degradation** | Biodegradability 99 %; 30 d Readily biodegradable |
| **Environmental** | Avoid release to the environment. |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1230 |
| **Proper shipping name** | Methanol |
| **Hazard class** | 3(6.1) |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Methyl Acetate for HPLC |
| **Cat No.** | HP0208 |
| **CAS-No.** | 79-20-9 |
| **M.W.** | 74.08 |
| **EC-No.** | 201-185-2 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 79-20-9 |
| **Percent** | >99.8% |
| **Substance/Mixture** | Substance |
| **Synonym** | Acetic acid methyl ester |
| **Chemical Formula** | $C_3H_6O_2$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Eye irritation | (Category 2) |
| Specific target organ toxicity - single exposure | (Category 3) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| EUH066 | Repeated exposure may cause skin dryness or cracking. |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P261 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. |

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Combustible. Development of hazardous combustion gases or vapours possible in the event of fire. |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear colourless liquid |
| **Odour** | Like-fruit |
| **Odour Threshold** | 162 -297053 ppm |
| **pH** | neutral |
| **Melting/freezing point** | -98 °C |
| **Boiling point/range** | 56 -58 °C at 1,013 hPa |
| **Flash point** | -13 °C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 217 hPa at 20 °C |
| **Vapour density** | 2.6 |
| **Relative density** | 0.93 g/cm³ at 20 °C |
| **Water solubility** | 250 g/l at 20 °C |
| **LogPow** | 0.18 |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | 0.381 mPa.s at 20 °C |
| **Explosive properties** | Not classified as explosive. |
| **Oxidizing properties** | none |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Vapours may form explosive mixture with air. |
| **Stability** | The product is chemically stable under standard ambient conditions (room temperature) |
| **Incompatibilities** | rubber, various plastics |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Warming. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | Acute oral toxicity LD50 Rat: > 5,000 mg/kg<br>Acute inhalation toxicity LC50 Rat: > 49.28 mg/l; 4 h ; vapour<br>Acute dermal toxicity LD50 Rat: > 2,000 mg/kg<br>rabbit Result: No irritation |

| | |
|---|---|
| **Serious eye damage/irritation** | rabbit Result: eye irritation |
| **Respiratory/skin sensitization** | Human experience Result: negative |
| **Germ cell mutagenicity** | Genotoxicity in vitro Ames test Result: negative |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** May cause drowsiness or dizziness. Target Organs: Central nervous system |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | AI9100000 |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 Danio rerio (zebra fish): 250 -350 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50Daphnia magna (Water flea): 1,027 mg/l; 48 h |
| Toxicity to algae | IC50 algae: > 120 mg/l; 72 h |
| Toxicity to bacteria | microtox test EC50 Photobacterium phosphoreum: 6,100 mg/l; 30 min |
| **Persistence/degradation** | Biodegradability > 70 %; 19 d Readily biodegradable. |
| **Environmental** | Discharge into the environment must be avoided. |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1231 |
| **Proper shipping name** | Methyl Acetate |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | n-Heptane for HPLC & Spectroscopy |
| **Cat No.** | HP0176 |
| **CAS-No.** | 142-82-5 |
| **M.W.** | 100.21 |
| **EC-No.** | 205-563-8 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 142-82-5 |
| **Percent** | >99.0% |
| **Substance/Mixture** | Substance |
| **Synonym** | - |
| **Chemical Formula** | $CH_3(CH_2)_5.CH_3$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Skin irritation | (Category 2) |
| Specific target organ toxicity - single exposure | (Category 3) |
| Aspiration hazard | (Category 1) |
| Acute aquatic toxicity | (Category 1) |
| Chronic aquatic toxicity | (Category 1) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word**

Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H336 | May cause drowsiness or dizziness. |
| H410 | Very toxic to aquatic life with long lasting effects. |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P261 | Avoid breathing vapours. |
| P273 | Avoid release to the environment. |
| P281 | Use personal protective equipment as required. |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. |
| P331 | Do NOT induce vomiting. |
| P501 | Dispose of contents/ container to an approved waste disposal plant. |

**Risk Phrases**

| | |
|---|---|
| R11 | Highly flammable. |
| R38 | Irritating to skin. |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R65 | Harmful: may cause lung damage if swallowed. |
| R67 | Vapours may cause drowsiness and dizziness. |

**Safety Phrases**

| | |
|---|---|
| S9 | Keep container in a well-ventilated place. |
| S16 | Keep away from sources of ignition. |
| S29 | Do not empty into drains. |
| S33 | Take precautionary measures against static discharges. |
| S60 | This material and its container must be disposed of as hazardous waste. |
| S61 | Avoid release to the environment. Refer to special instructions / safety data sheets. |

| | |
|---|---|
| S62 | If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label. |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear, colourless liquid |
| **Odour** | characteristic |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | -90.5 °C |
| **Boiling point/range** | 97 -98 °C at 1,013 hPa |
| **Flash point** | -4.0 °C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 48 hPa at 20 °C |
| **Vapour density** | 3.46 |
| **Relative density** | 0.682-0.684g |
| **Water solubility** | 0.05 g/l at 20 °C |
| **LogPow** | 4.66 |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | 0.42 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

| | |
|---|---|
| **Reactivity** | Vapours may form explosive mixture with air. |
| **Stability** | The product is chemically stable under standard ambient conditions (room temperature). |
| **Incompatibilities** | rubber, various plastics |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Warming. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | Causes skin irritation. |
| **Serious eye damage/irritation** | Rabbit Result: No eye irritation |
| **Respiratory/skin sensitization** | no data available |
| **Germ cell mutagenicity** | Genotoxicity in vitro Ames test Salmonella typhimurium Result: negative |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** May cause drowsiness or dizziness. |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | May be fatal if swallowed and enters airways. |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity** | |
| Toxicity to fish | LC50 Carassius auratus (goldfish): 4 mg/l; 24 h |
| Toxicity to daphnia and other aquatic invertebrates | no data available |
| **Persistence/degradation** | Biodegradability 70 %; 10 d; aerobic (ECHA) Readily biodegradable |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1206 |
| **Proper shipping name** | n-Heptane |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

Chemistry beyond chemicals

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | n-HEXANE FOR HPLC & SPECTROSCOPY |
| **Cat No.** | HP0179 |
| **CAS-No.** | 110-54-3 |
| **M.W.** | 86.18 |
| **EC-No.** | 203-777-6 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 110-54-3 |
| **Percent** | > 99.0% |
| **Substance/Mixture** | Substance |
| **Synonym** | - |
| **Chemical Formula** | $C_6H_{14}$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Skin irritation | (Category 2) |
| Reproductive toxicity | (Category 2) |
| Specific target organ toxicity - single exposure | (Category 3) |
| Specific target organ toxicity - repeated exposure | (Category 2) |
| Aspiration hazard | (Category 1) |
| Chronic aquatic toxicity | (Category 2) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H361f Suspected of damaging fertility.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

**Precautionary statement(s)**

P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273 Avoid release to the environment.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P331 Do NOT induce vomiting.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| | Do NOT induce |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | no data available |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | Liquid colourless |
| **Odour** | Characteristic |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | -95°C |
| **Boiling point/range** | 69°C at 1,013 hPa |
| **Flash point** | -22°C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 175.98 hPa at 20 °C |
| **Vapour density** | no data available |
| **Relative density** | 0.658-0.659g |
| **Water solubility** | 0.01g/l at 25 °C |
| **LogPow** | 4.11 |
| **Auto-ignition temperature** | 225.0 °C at 1.013 hpa |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Vapours may form explosive mixture with air. |
| **Stability** | The product is chemically stable under standard ambient conditions (room temperature). |
| **Incompatibilities** | rubber, various plastics |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | Warming. |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | Causes skin irritation. |

| | |
|---|---|
| **Serious eye damage/irritation** | Risk of corneal clouding. |
| **Respiratory/skin sensitization** | no data available |
| **Germ cell mutagenicity** | Genotoxicity in vivo Micronucleus test Result: negative |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure: May cause drowsiness or dizziness. |
| **Specific target organ toxicity** | Repeated exposure: May cause damage to organs through prolonged or repeated exposure. |
| **Aspiration hazard** | no data available |
| **RTECS** | MN9275000 |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 Pimephales promelas (fathead minnow): 2.5 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 Daphnia magna (Water flea): 2.1 mg/l; 48 h |
| **Persistence/degradation** | no data available |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1208 |
| **Proper shipping name** | HEXANES |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

Chemistry beyond chemicals

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | ortho-Phosphoric Acid 85% for HPLC &Spectroscopy |
| **Cat No.** | HP0223 |
| **CAS-No.** | 7664-38-2 |
| **M.W.** | 98.00 |
| **EC-No.** | - |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 7664-38-2 |
| **Percent** | 85.0% |
| **Substance/Mixture** | Substance |
| **Synonym** | Phosphoric acid |
| **Chemical Formula** | $H_3PO_4$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Corrosive to metals | (Category 1) |
| Skin corrosion | (Category 1B) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

**Precautionary statement(s)**

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/ physician.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | No data available |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | No data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. |

| | |
|---|---|
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | A clear viscous liquid, not more than 10 Hazen units in colour |
| **Odour** | Odourless |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | 21 °C |
| **Boiling point/range** | 158 °C |
| **Flash point** | no data available |
| **Evapouration rate** | no data available |
| **Vapour pressure** | no data available |
| **Vapour density** | no data available |
| **Relative density** | no data available |
| **Water solubility** | Miscible |
| **Auto-ignition temperature** | No data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions. |
| **Incompatibilities** | Strong bases, Powdered metals. |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | no data available |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | no data available |
| **Serious eye damage/irritation** | no data available |
| **Respiratory/skin sensitization** | no data available |
| **Germ cell mutagenicity** | no data available |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure : no data available |
| **Specific target organ toxicity** | Repeated exposure: no data available |
| **Aspiration hazard** | no data available |

| | |
|---|---|
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | no data available |
| Toxicity to daphnia and other aquatic invertebrates | no data available |
| **Persistence/degradation** | no data available |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1805 |
| **Proper shipping name** | Phosphoric Acid Solution |
| **Hazard class** | 8 |
| **Packaging group** | III |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Safety, health and environmental regulations/legislation specific for the substance/mixture :**no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

Chemistry beyond chemicals

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Potassium Bromide for Spectroscopy IR |
| **Cat No.** | HP0226 |
| **CAS-No.** | 7758-02-3 |
| **M.W.** | 119.00 |
| **EC-No.** | - |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 7758-02-3 |
| **Percent** | 99.5% |
| **Substance/Mixture** | Substance |
| **Synonym** | - |
| **Chemical Formula** | KBr |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Eye irritation | (Category 2) |
| Skin irritation | (Category 2) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Warning

**Hazard statement(s)**

H319 Causes serious eye irritation.
H315 Causes skin irritation.
H335 May cause respiratory irritation.

**Precautionary statement(s)**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.Remov contact lenses, if present and easy to do. Continue rinsing.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | No data available |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | No data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |

| | |
|---|---|
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | A colorless crystalline powder |
| **Odour** | Odourless |
| **Odour Threshold** | no data available |
| **pH** | 5.0-8.8 |
| **Melting/freezing point** | 734 °C |
| **Boiling point/range** | 1435 °C |
| **Flash point** | no data available |
| **Evapouration rate** | no data available |
| **Vapour pressure** | no data available |
| **Vapour density** | no data available |
| **Relative density** | no data available |
| **Water solubility** | Soluble |
| **Auto-ignition temperature** | No data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions |
| **Incompatibilities** | Strong oxidizing agents |
| **Hazardous decomposition products** | No data available |
| **Conditions to avoid** | no data available |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | No data available |
| **Skin corrosion/irritation** | No data available |
| **Serious eye damage/irritation** | No data available |
| **Respiratory/skin sensitization** | No data available |
| **Germ cell mutagenicity** | No data available |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | No data available |
| **Specific target organ toxicity** | Single exposure: No data available |

| | |
|---|---|
| **Specific target organ toxicity** | Repeated exposure: No data available |
| **Aspiration hazard** | No data available |
| **RTECS** | No data available |

## SECTION 12: ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity** | No data available |
| **Persistence/degradation** | No data available |
| **Environmental** | No data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | - |
| **Proper shipping name** | Not Dangerous good |
| **Hazard class** | - |
| **Packaging group** | - |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

Chemistry beyond chemicals

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Sodium Acetate Anhydrous for HPLC & Spectroscopy |
| **Cat No.** | HP0250 |
| **CAS-No.** | 127-09-3 |
| **M.W.** | 82.03 |
| **EC-No.** | - |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 127-09-3 |
| **Percent** | 99.5% |
| **Substance/Mixture** | Substance |
| **Synonym** | Sodium ethanoate; Acetic acid sodium salt |
| **Chemical Formula** | $CH_3COONa$ |

## SECTION 3: HAZARDS IDENTIFICATION

This product is not classified as dangerous or hazardous substance/mixture.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do Not induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | no data available |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Absorb/Contain spillage in a suitable absorbent (eg. Dry powder, rag, saw-dust), the collected material shall be placed in a container for disposal according to appropriate laws and regulations. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | No smoking. Keep away from sources of ignition. Avoid contact with skin and eyes. Wash hands and face thoroughly after handling. Avoid inhalation of vapour or mist. Wear suitable protective equipment. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |

| | |
|---|---|
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination.If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | A white or almost white crystalline powder. |
| **Odour** | Slight acetic acid |
| **Odour Threshold** | no data available |
| **pH** | 7.0-9.2 |
| **Melting/freezing point** | 324 °C |
| **Boiling point/range** | no data available |
| **Flash point** | > 250 $^{O}$C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | no data available |
| **Vapour density** | no data available |
| **Relative density** | no data available |
| **Water solubility** | 500 g/L (20 °C) |
| **LogPow** | no data available |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions |
| **Incompatibilities** | Strong oxidizing agents |
| **Hazardous decomposition products** | No data available |
| **Conditions to avoid** | no data available |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | No data available |
| **Skin corrosion/irritation** | No data available |
| **Serious eye damage/irritation** | No data available |
| **Respiratory/skin sensitization** | No data available |
| **Germ cell mutagenicity** | No data available |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | No data available |
| **Specific target organ toxicity** | Single exposure: No data available |
| **Specific target organ toxicity** | Repeated exposure: No data available |
| **Aspiration hazard** | No data available |
| **RTECS** | No data available |

## SECTION 12: ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity** | No data available |
| **Persistence/degradation** | No data available |
| **Environmental** | No data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | - |
| **Proper shipping name** | Not Dangerous good |
| **Hazard class** | - |
| **Packaging group** | - |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

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# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Sodium Chloride HPLC & Spectoroscopy |
| **Cat No.** | HP0255 |
| **CAS-No.** | 7647-14-5 |
| **M.W.** | 58.44 |
| **EC-No.** | 231-598-3 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 7647-14-5 |
| **Percent** | > 99.5% |
| **Substance/Mixture** | Substance |
| **Synonym** | - |
| **Chemical Formula** | NaCl |

## SECTION 3: HAZARDS IDENTIFICATION

This product is not classified as dangerous or hazardous substance/mixture.

**Safety Phrases** S24/25 Avoid contact with skin and eyes.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Hydrogen chloride gas |
| **Advice for firefighters** | Wear personal protective equipment for firefighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## ECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | white crystals/crystalline powder |
| **Odour** | Odourless |
| **Odour Threshold** | no data available |
| **pH** | 4.5 - 7.0 at 100 g/l 20 °C |

| | |
|---|---|
| **Melting/freezing point** | 801 °C |
| **Boiling point/range** | 1,461 °C at 1,013 hPa |
| **Flash point** | no data available |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 1.3 hPa at 865 °C |
| **Vapour density** | no data available |
| **Relative density** | no data available |
| **Water solubility** | 358 g/l at 20 °C |
| **LogPow** | no data available |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | The product is chemically stable under standard ambient conditions |
| **Incompatibilities** | Strong oxidizing agents |
| **Hazardous decomposition products** | Hydrogen chloride gas |
| **Conditions to avoid** | no data available |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | No skin irritation |
| **Serious eye damage/irritation** | No eye irritation |
| **Respiratory/skin sensitization** | no data available |
| **Germ cell mutagenicity** | Genotoxicity in vitro Mutagenicity (mammal cell test): micronucleus. Result: negative |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** no data available |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 Pimephales promelas (fathead minnow): 7,650 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 Daphnia magna (Water flea): 1,000 mg/l; 48 h |
| **Persistence/degradation** | Biodegradability The methods for determining the biological degradability are not applicable to inorganic substances. |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | - |
| **Proper shipping name** | Not dangerous goods |
| **Hazard class** | - |
| **Packaging group** | - |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.
Please read all labels carefully before using product.
*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling*

# Material Safety Data Sheet

Chemistry beyond chemicals

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Sodium Dihydrogen Orthophosphate Dihydrate for HPLC |
| **Cat No.** | HP0260 |
| **CAS-No.** | 13472-35-0 |
| **M.W.** | 156.01 |
| **EC-No.** | - |
| **Company** | H |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 13472-35-0 |
| **Percent** | 99.0% |
| **Substance/Mixture** | Substance |
| **Synonym** | Sodium bi-phosphate dihydrate ; Sodium Acid Phosphate |
| **Chemical Formula** | $NaH_2PO_4.2H_2O$ |

## SECTION 3: HAZARDS IDENTIFICATION

This product is not classified as dangerous or hazardous substance/mixture.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | No data available |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | No data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |

| | |
|---|---|
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | Small colorless crystals/crystalline powder |
| **Odour** | Odourless |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | 60 °C |
| **Boiling point/range** | no data available |
| **Flash point** | no data available |
| **Evapouration rate** | no data available |
| **Vapour pressure** | no data available |
| **Vapour density** | no data available |
| **Relative density** | 1.92 |
| **Water solubility** | Soluble |
| **Auto-ignition temperature** | No data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions |
| **Incompatibilities** | Strong oxidizing agents |
| **Hazardous decomposition products** | No data available |
| **Conditions to avoid** | no data available |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | No data available |
| **Skin corrosion/irritation** | No data available |
| **Serious eye damage/irritation** | No data available |
| **Respiratory/skin sensitization** | No data available |
| **Germ cell mutagenicity** | No data available |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | No data available |
| **Specific target organ toxicity** | Single exposure: No data available |
| **Specific target organ toxicity** | Repeated exposure: No data available |
| **Aspiration hazard** | No data available |
| **RTECS** | No data available |

## SECTION 12: ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity** | No data available |
| **Persistence/degradation** | No data available |
| **Environmental** | No data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | - |
| **Proper shipping name** | Not Dangerous good |
| **Hazard class** | - |
| **Packaging group** | - |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

Chemistry beyond chemicals

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Sodium Hydrogen Carbonate for HPLC & Spectroscopy |
| **Cat No.** | HP0262 |
| **CAS-No.** | 144-55-8 |
| **M.W.** | 84.01 |
| **EC-No.** | - |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 144-55-8 |
| **Percent** | 99.7% |
| **Substance/Mixture** | Substance |
| **Synonym** | Sodium bicarbonate; Sodium hydrocarbonate |
| **Chemical Formula** | $NaHCO_3$ |

## SECTION 3: HAZARDS IDENTIFICATION

This product is not classified as dangerous or hazardous substance/mixture.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | No data available |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | No data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |

| | |
|---|---|
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | White crystalline powder |
| **Odour** | Odourless |
| **Odour Threshold** | no data available |
| **pH** | 8.0-8.5 |
| **Melting/freezing point** | 270 °C |
| **Boiling point/range** | 851 °C |
| **Flash point** | no data available |
| **Evapouration rate** | no data available |
| **Vapour pressure** | no data available |
| **Vapour density** | no data available |
| **Relative density** | 2.159 |
| **Water solubility** | 9 g/100 mL (20 °C) |
| **Auto-ignition temperature** | No data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | no data available |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | no data available |
| **Stability** | Stable under recommended storage conditions |
| **Incompatibilities** | Strong oxidizing agents |
| **Hazardous decomposition products** | No data available |
| **Conditions to avoid** | no data available |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | No data available |
| **Skin corrosion/irritation** | No data available |
| **Serious eye damage/irritation** | No data available |
| **Respiratory/skin sensitization** | No data available |
| **Germ cell mutagenicity** | No data available |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | No data available |
| **Specific target organ toxicity** | Single exposure: No data available |
| **Specific target organ toxicity** | Repeated exposure: No data available |
| **Aspiration hazard** | No data available |
| **RTECS** | No data available |

## SECTION 12: ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity** | No data available |
| **Persistence/degradation** | No data available |
| **Environmental** | No data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | - |
| **Proper shipping name** | Not Dangerous good |
| **Hazard class** | - |
| **Packaging group** | - |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | tert-Butanol for HPLC & Spectroscopy |
| **Cat No.** | HP0053 |
| **CAS-No.** | 75-65-0 |
| **M.W.** | 74.12 |
| **EC-No.** | 200-889-7 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 75-65-0 |
| **Percent** | 99.5% |
| **Substance/Mixture** | Substance |
| **Synonym** | 2-Methylpropan-2-ol |
| **Chemical Formula** | $(CH_3)_3$. C.OH |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquid | Category 2 |
| Acute toxicity | Category 4 |
| Eye irritation | Category 2 |
| Specific target organ toxicity - single exposure | Category 3 |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

**Precautionary statement(s)**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides. |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | A Clear liquid |
| **Odour** | Camphor-like |
| **Odour Threshold** | 71 ppm |
| **pH** | at 20 °C neutral |
| **Melting/freezing point** | 24-25°C |
| **Boiling point/range** | 81 - 83 °Cat 1.013 hPa |
| **Flash point** | 14°C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 40.7 hPa at 20 °C |
| **Vapour density** | 2.56 |
| **Relative density** | 0.773-0.778g |
| **Water solubility** | at 20 °C Soluble |
| **LogPow** | no data available |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | 3.3 mPa.s at 20 °C |
| **Explosive properties** | Not classified as explosive. |
| **Oxidizing properties** | none |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.Vapours may form explosive mixture with air. |
| **Stability** | The product is chemically stable under standard ambient conditions (room temperature). |
| **Incompatibilities** | strong Oxidizing agents, Copper, Alkali metals, aluminium |
| **Hazardous decomposition Products** | Carbon oxides |
| **Conditions to avoid** | Warming |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | Acute oral toxicity: LD50 rat: 2,733 mg/kg<br>Acute inhalation toxicity: LC50 rat: > 29.8 mg/l; 4 h<br>Acute dermal toxicity: LD50 rabbit: > 2,000 mg/kg |
| **Skin corrosion/irritation** | Rabbit Result : No skin irritation |

| | |
|---|---|
| **Serious eye damage/irritation** | Rabbit Result: Causes serious eye irritation. |
| **Respiratory/skin sensitization** | Sensitisation test: guinea pig Result: negative |
| **Germ cell mutagenicity** | Genotoxicity in vivo: Mutagenicity (mammal cell test): micronucleus. Result: negative<br>Genotoxicity in vitro: Ames test Result: negative<br>Mutagenicity (mammal cell test): chromosome aberration. Result: negative |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** Target Organs: Respiratory system<br>May cause respiratory irritation. |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | EO1925000 |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish: | LC50 Pimephales promelas (fathead minnow): 6,140 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates: | EC50 Daphnia magna: 933 mg/l; 48 h |
| **Persistence/degradation** | Biodegradability > 99.9 %; 19 d |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1120 |
| **Proper shipping name** | Butanols |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
**Safety, health and environmental regulations/legislation specific for the substance/mixture:** no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Tetrahydrofuran for HPLC & Spectroscopy |
| **Cat No.** | HP0302 |
| **CAS-No.** | 109-99-9 |
| **M.W.** | 72.11 |
| **EC-No.** | 203-726-8 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 109-99-9 |
| **Percent** | >99.7% |
| **Substance/Mixture** | Substance |
| **Synonym** | 1,4-Epoxybutane ; Cyclotetramethylene oxide ; THF; Butylene oxide |
| **Chemical Formula** | $C_4H_8O$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Eye irritation | (Category 2) |
| Carcinogenicity | (Category 2) |
| Specific target organ toxicity - single exposure | (Category 3) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word**

Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H351 | Suspected of causing cancer. |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P261 | Avoid breathing vapours. |
| P281 | Use personal protective equipment as required. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

**Risk Phrases**

| | |
|---|---|
| R11 | Highly flammable. |
| R19 | May form explosive peroxides. |
| R36/37 | Irritating to eyes and respiratory system. |
| R40 | Limited evidence of a carcinogenic effect. |

**Safety Phrases**

| | |
|---|---|
| S13 | Keep away from food, drink and animal foodstuffs. |
| S16 | Keep away from sources of ignition. |
| S29 | Do not empty into drains. |
| S33 | Take precautionary measures against static discharges. |
| S36 | Wear suitable protective clothing. |
| S37 | Wear suitable gloves. |
| S46 | If swallowed, seek medical advice immediately and show this container or label. |

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. |

| | |
|---|---|
| | Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | Use water spray to cool unopened containers. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | clear colurless liquid |
| **Odour** | Ether-like |
| **Odour Threshold** | no data available |
| **pH** | no data available |
| **Melting/freezing point** | -108.5 °C |
| **Boiling point/range** | 65-67°C |
| **Flash point** | -21.5 °C |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 173 hPa at 20 °C |
| **Vapour density** | 2.5 |
| **Relative density** | 0.886-0.888 g |
| **Water solubility** | no data available |
| **LogPow** | 0.45 |
| **Auto-ignition temperature** | 215 °C |
| **Decomposition temperature** | no data available |
| **Viscosity** | 0.48 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Vapours may form explosive mixture with air.Formation of peroxides possible. |
| **Stability** | Sensitivity to light,Sensitive to air. |
| **Incompatibilities** | rubber, various plastics, Tin |
| **Hazardous decomposition products** | Peroxides |
| **Conditions to avoid** | Warming.Distillation (Risk of explosion). |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | no data available |
| **Serious eye damage/irritation** | Rabbit Result: Eye irritation |
| **Respiratory/skin sensitization** | Sensitisation test:Guinea pig Result: negative |
| **Germ cell mutagenicity** | Genotoxicity in vitro Ames test Result: negative |
| **Carcinogenicity** | IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** May cause respiratory irritation. |
| **Specific target organ toxicity** | Repeated exposure**:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | LU5950000 |

## SECTION 12: ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity** | |
| Toxicity to fish | flow-through test LC50 Pimephales promelas (fathead minnow): 2,160 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | static test EC50 Daphnia magna (Water flea): 3,485 mg/l; 48 h |
| **Persistence/degradation** | Biodegradability 39 %; 28 d; aerobic Biochemical oxygen demand Not readily biodegradable |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 2056 |
| **Proper shipping name** | Tetrahydrofuran |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Safety, health and environmental regulations/legislation specific for the substance/mixture :**no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Toluene Rectified for HPLC & Spectroscopy |
| **Cat No.** | HP0303 |
| **CAS-No.** | 108-88-3 |
| **M.W.** | 92.14 |
| **EC-No.** | 203-625-9 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 108-88-3 |
| **Percent** | >99.7% |
| **Substance/Mixture** | Substance |
| **Synonym** | Methyl benzene |
| **Chemical Formula** | $C_6H_5.CH_3$ |

## SECTION 3: HAZARDS IDENTIFICATION

**GHS CLASSIFICATION**

| | |
|---|---|
| Flammable liquids | (Category 2) |
| Skin irritation | (Category 2) |
| Reproductive toxicity | (Category 2) |
| Specific target organ toxicity - single exposure | (Category 3) |
| Specific target organ toxicity - repeated exposure | (Category 2) |
| Aspiration hazard | (Category 1) |

**GHS LABEL ELEMENTS**

**Pictograms or Hazard Symbols**

**Signal word** Danger

**Hazard statement(s)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H336 | May cause drowsiness or dizziness. |
| H361d | Suspected of damaging the unborn child. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

**Precautionary statement(s)**

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P261 | Avoid breathing vapours. |
| P281 | Use personal protective equipment as required. |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. |
| P331 | Do NOT induce vomiting. |

**Risk Phrases**

| | |
|---|---|
| R63 | Possible risk of harm to the unborn child. |
| R11 | Highly flammable. |
| R38 | Irritating to skin. |
| R48/20 | Harmful: danger of serious damage to health by prolonged exposure through inhalation. |
| R65 | Harmful: may cause lung damage if swallowed. |
| R67 | Vapours may cause drowsiness and dizziness. |

**Safety Phrases**

| | |
|---|---|
| S36/37 | Wear suitable protective clothing and gloves. |
| S46 | If swallowed, seek medical advice immediately and show this container or label. |
| S62 | If swallowed, do not induce vomiting ; seek medical advice immediately and show this container or label. |

## SECTION 4: FIRST AID MEASURES

**Inhalation** If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice.

| | |
|---|---|
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do NOT induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | Carbon oxides |
| **Advice for firefighters** | Wear personal protective equipment for fire fighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable closed containers for disposal. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use. Wash and dry hands. |
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | A clear colourless liquid |
| **Odour** | characteristic |
| **Odour Threshold** | 0.2 -68.6 ppm |
| **pH** | no data available |
| **Melting/freezing point** | -95.0 °C |
| **Boiling point/range** | 110.6 °C at 1,013 hPa |
| **Flash point** | 4 °C at 1,013 hPa |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 29 hPa at 20 °C |
| **Vapour density** | 3.18 |
| **Relative density** | 0.866-0.867g |
| **Water solubility** | 0.52 g/l at 20 °C |
| **LogPow** | 2.65 |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | 0.6 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Vapours may form explosive mixture with air. |
| **Stability** | The product is chemically stable under standard ambient conditions (room temperature). |
| **Incompatibilities** | rubber, various plastics |
| **Hazardous decomposition products** | no data available |

| | |
|---|---|
| **Conditions to avoid** | Warming |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Skin corrosion/irritation** | Rabbit Result: irritating |
| **Serious eye damage/irritation** | Rabbit Result: No eye irritation |
| **Respiratory/skin sensitization** | no data available |
| **Germ cell mutagenicity** | Genotoxicity in vitro In vitro mammalian cell gene mutation test Mouse lymphoma test Result: negative |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure**:** May cause drowsiness or dizziness. |
| **Specific target organ toxicity** | Repeated exposure**:** May cause damage to organs through prolonged or repeated exposure. |
| **Aspiration hazard** | no data available |
| **RTECS** | Not available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | LC50 Oncorhynchus mykiss (rainbow trout): 5.8 mg/l; 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 Daphnia magna (Water flea): 6 mg/l; 48 h |
| **Persistence/degradation** | Biodegradability 69 - 81 %; 5 d; aerobic Readily biodegradable |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

| | |
|---|---|
| **UN number** | 1294 |
| **Proper shipping name** | Toluene |
| **Hazard class** | 3 |
| **Packaging group** | II |

## SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Safety, health and environmental regulations/legislation specific for the substance/mixture :**no data available

## SECTION 16: OTHER INFORMATION

**Product Use:** Laboratory Reagent.

Please read all labels carefully before using product.

*The above information contained herewith is believed to be accurate. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. This document does not represent any guarantee of the properties of the product. HPLC shall not be held liable for any claims, losses, or damages resulting from handling or from contact with the above product.*

# Material Safety Data Sheet

**Chemistry beyond chemicals**

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

| | |
|---|---|
| **Chemical name** | Water for HPLC & Spectroscopy |
| **Cat No.** | HP0351 |
| **CAS-No.** | 7732-18-5 |
| **M.W.** | 18.015 |
| **EC-No.** | 231-791-2 |
| **Company** | |
| **Email** | |

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|---|---|
| **Component(s)** | - |
| **CAS No.** | 7732-18-5 |
| **Percent** | - |
| **Substance/Mixture** | Substance |
| **Synonym** | - |
| **Chemical Formula** | $H_2O$ |

## SECTION 3: HAZARDS IDENTIFICATION

This product is not classified as dangerous or hazardous substance/mixture.

## SECTION 4: FIRST AID MEASURES

| | |
|---|---|
| **Inhalation** | If breathed in, move victim into fresh air. Keep at comfortable position for breathing. Get medical advice. |
| **Skin contact** | Remove contaminated clothes immediately and wash gently with plenty of soap and water. Get medical advice. |
| **Eye contact** | Remove contact lenses, if present. Rinse thoroughly with plenty of water for several minutes. Get medical advice. |
| **Ingestion** | Do Not induce vomiting. Rinse mouth with water. Get medical advice. |

## SECTION 5: FIREFIGHTING MEASURES

| | |
|---|---|
| **Extinguishing media** | Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Special hazards** | no data available |
| **Advice for firefighters** | Wear personal protective equipmentfor fire fighting if necessary. |
| **Further information** | no data available |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions** | Use personal protective equipment (self-contained breathing apparatus). Avoid breathing vapours, mist or gas. Ensure adequate ventilation.Evacuate personnel to safe areas. Remove all sources of ignition. |
| **Environmental precautions** | Prevent further leakage/spillage. Do not let product enter drains/rivers. Discharge into the environment must be avoided. |
| **Methods and materials for containment and cleaning up** | Absorb/Contain spillage in a suitable absorbent (eg. Dry powder, rag , saw-dust), the collected material shall be placed in a container for disposal according to appropriate laws and regulations. |

## SECTION 7: HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | No smoking. Keep away from sources of ignition. Avoid contact with skin and eyes. Wash hands and face thoroughly after handling. Avoid inhalation of vapour or mist. Wear suitable protective equipment. |
| **Storage condition** | Store in a cool, dry and well-ventilated place. Keep container tightly closed. |

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|---|---|
| **Engineering controls** | Ensure adequate ventilation. Install safety shower and eye bath. Good industrial hygiene and safety practice should be followed. Wash hands after handling the product. |
| **Eye/face protection** | Face shield and safety glasses, if required. |
| **Hand protection** | Handle with gloves. Dispose of contaminated gloves after use.Wash and dry hands. |

| | |
|---|---|
| **Skin and Body Protection** | Impervious protective clothing and boots, if required. |
| **Respiratory protection** | Use half or full-face respirator with multi-purpose combination.If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | A clear colourless liquid. |
| **Odour** | Odourless |
| **Odour Threshold** | no data available |
| **pH** | at 20 °C neutral |
| **Melting/freezing point** | 0°C |
| **Boiling point/range** | 100 °C at 1,013 hPa |
| **Flash point** | no data available |
| **Evapouration rate** | no data available |
| **Vapour pressure** | 23 hPa at 20 °C |
| **Vapour density** | no data available |
| **Relative density** | no data available |
| **Water solubility** | completely soluble |
| **LogPow** | no data available |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **Viscosity** | 0.952 mPa.s at 20 °C |
| **Explosive properties** | no data available |
| **Oxidizing properties** | no data available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | The generally known reaction partners of water. |
| **Stability** | The product is chemically stable under standard ambient conditions |
| **Incompatibilities** | no data available |
| **Hazardous decomposition products** | no data available |
| **Conditions to avoid** | no data available |

## SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Acute toxicity** | no data available |
| **Skin corrosion/irritation** | no data available |
| **Serious eye damage/irritation** | no data available |
| **Respiratory/skin sensitization** | no data available |
| **Germ cell mutagenicity** | no data available |
| **Carcinogenicity** | no data available |
| **Reproductive toxicity** | no data available |
| **Specific target organ toxicity** | Single exposure **:** no data available |
| **Specific target organ toxicity** | Repeated exposure **:** no data available |
| **Aspiration hazard** | no data available |
| **RTECS** | no data available |

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

| | |
|---|---|
| Toxicity to fish | no data available |
| Toxicity to daphnia and other aquatic invertebrates | no data available |
| **Persistence/degradation** | no data available |
| **Environmental** | no data available |

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contaminated packaging or unused product as per local law and regulations.
There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## SECTION 14: TRANSPORT INFORMATION

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35
Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

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