

Safety Data Sheet

According to Hazardous Products Regulation (SOR/2015-17)

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SECTION 1: Identification

Product identifier

| | |
|--------------------------------|---|
| Trade name/designation: | Chloroform HiPerSolv CHROMANORM [®] for HPLC |
| Product No.: | BDH83627 |
| Synonymes: | none/none |
| CAS No.: | 67-66-3 |
| Other means of identification: | |

Relevant identified uses of the substance or mixture and uses advised against

| | |
|-----------------------|------------------------------------|
| Recommended Use: | For Further Manufacturing Use Only |
| Uses advised against: | Not for Human or Animal Drug Use |

Details of the supplier of the safety data sheet

Supplier

VWR International

| | |
|------------------|--|
| Street | 2360 Argentia Road |
| Postal code/City | Mississauga, Ontario |
| | Canada L5N 5Z7 |
| Telephone | +1-800-932-5000 toll-free within US/Canada |
| Telefax: | +1-610-728-2103 |

Emergency phone number

Telephone +1-613-996-6666 (Canutec, 24 hrs/day, 7 days/week, Canada)

Preparation Information

VWR International - Product Information Compliance

E-mail sds@vwr.com

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Classification according to Hazardous Products Regulation (SOR/2015-17)

| Hazard classes and hazard categories | Hazard statements |
|---|-------------------|
| Acute toxicity, category 3, inhalation | H331 |
| Acute toxicity, category 4, oral | H302 |
| Skin irritation, category 2 | H315 |
| Eye irritation, category 2 | H319 |
| Carcinogenicity, category 2 | H351 |
| Reproductive toxicity, category 2 | H361 |
| Specific target organ toxicity (repeated exposure), category 1 | H372 |
| Specific target organ toxicity (single exposure), category 3, narcotic effect | H336 |

2.2 Label elements

Labelling in accordance with (SOR/2015-17)

Hazard pictograms



Signal word: Danger

| Hazard statements | |
|-------------------|---|
| H331 | Toxic if inhaled. |
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H351 | Suspected of causing cancer. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H336 | May cause drowsiness or dizziness. |

| Precautionary statements | |
|--------------------------|--|
| P201 | Obtain special instructions before use. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P301+P330+P331 | IF SWALLOWED: rinse mouth. Do NOT induce vomiting. |
| P302+P352 | IF ON SKIN: Wash with plenty of water/... |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| 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+P311 | IF exposed or concerned: Call a POISON CENTER/doctor/... |

Hazards not otherwise classified (HNOC)

none/none

SECTION 3: Composition / information on ingredients

3.1 Substances

| | |
|-------------------|-------------------|
| Substance name | Chloroform |
| Molecular formula | CHCl ₃ |
| Molecular weight | 119.38 g/mol |
| CAS No. | 67-66-3 |

SECTION 4: First aid measures

4.1 General information

IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician. If unconscious but breathing normally, place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

In case of inhalation

Call a POISON CENTER/doctor. Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. In case of skin reactions, consult a physician.

After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

In case of ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting. Give nothing to eat or drink.

Self-protection of the first aider

First aider: Pay attention to self-protection!

4.2 Most important symptoms/effects, acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media

The product itself does not burn.

Co-ordinate fire-fighting measures to the fire surroundings.

Extinguishing media which must not be used for safety reasons

no restriction

5.2 Specific hazards arising from the chemical

In case of fire may be liberated:

Carbon monoxide

Carbon dioxide (CO₂)

Hydrogen chloride (HCl)

5.3 Advice for firefighters

DO NOT fight fire when fire reaches explosives.

Protective equipment and precautions for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information

Do not allow run-off from fire-fighting to enter drains or water courses.

Do not inhale explosion and combustion gases.

Use water spray/stream to protect personnel and to cool endangered containers.

In case of fire: Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

In case of major fire and large quantities: Remove persons to safety.

6.2 Environmental precautions

Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Collect in closed and suitable containers for disposal.

6.4 Additional information

Clear spills immediately.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid:

Inhalation

Avoid contact with eyes and skin.

Use extractor hood (laboratory).

If handled uncovered, arrangements with local exhaust ventilation have to be used.

If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means.

7.2 Conditions for safe storage, including any incompatibilities

Recommended storage temperature: Ambient temperature

Keep container tightly closed and in a well-ventilated place.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

| Ingredient (Designation) | Regulatory information | Country | Limit value type (country of origin) | Limit value |
|--------------------------|------------------------|---------|--------------------------------------|--------------------------------|
| Chloroform | CNESST | CA | VEMP | 24.4 mg/m ³ - 5 ppm |

8.2 Engineering controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Personal protection equipment (PPE)

Wear suitable protective clothing. When handling with chemical substances, protective clothing must be worn.

Eye/face protection

Eye glasses with side protection

Skin protection

Wear suitable gloves. When handling with chemical substances, protective gloves must be worn. In the case of wanting to use the gloves again, clean them before taking off and air them well. Check leak tightness/impermeability prior to use.

By short-term hand contact

| | |
|----------------------------------|---|
| Suitable material: | Butyl caoutchouc (butyl rubber)/FKM (fluoro rubber) |
| Thickness of the glove material: | 0,70 mm |
| Breakthrough time:: | 120-240 min |

By long-term hand contact

| | |
|----------------------------------|-------------------------|
| Suitable material: | PVA (Polyvinyl alcohol) |
| Thickness of the glove material: | - |
| Breakthrough time:: | > 480 min |

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Additional information

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

Environmental exposure controls

no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|----------------------|-------------------|
| (a) Appearance | |
| Physical state: | liquid |
| Color: | colorless |
| (b) Odour: | no data available |
| (c) Odour threshold: | no data available |

Safety relevant basic data

| | |
|--|----------------------------------|
| (d) pH: | no data available |
| (e) Melting point/freezing point: | -63 °C |
| (f) Initial boiling point and boiling range: | 61.7 °C (1013 hPa) |
| (g) Flash point: | no data available |
| (h) Evaporation rate: | no data available |
| (i) Flammability (solid, gas): | not applicable |
| (j) Flammability or explosive limits | |
| Lower explosion limit: | no data available |
| Upper explosion limit: | no data available |
| (k) Vapour pressure: | 210 hPa (20 °C) |
| (l) Vapour density: | 4.12 (20 °C) |
| (m) Relative density: | 1.4832 g/cm ³ (20 °C) |
| (n) Solubility(ies) | |
| Water solubility (g/L): | 8 g/l (20 °C) |
| Soluble (g/L) in Ethanol: | no data available |
| (o) Partition coefficient: n-octanol/water: | 1.97 (20 °C) |
| (p) Auto-ignition temperature: | 982 °C |
| (q) Decomposition temperature: | no data available |
| (r) Viscosity | |
| Kinematic viscosity: | no data available |
| Dynamic viscosity: | 0.56 mPa*s (20 °C) |
| (s) Explosive properties: | not applicable |
| (t) Oxidising properties: | not applicable |

9.2 Other information

| | |
|------------------------|------------------------|
| Bulk density: | no data available |
| Refraction index: | 1.4476 (589 nm; 20 °C) |
| Dissociation constant: | no data available |
| Surface tension: | no data available |
| Henry's Law Constant: | no data available |

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

10.7 Additional information

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute effects

Acute oral toxicity:

LD50: > 695 mg/kg - Rat - (RTECS)

LDLo: > 2514 mg/kg - Human - (RTECS)

Acute dermal toxicity:

LD50: > 20 g/kg - Rabbit - (National Library of Medicine ChemID Plus (NLM CIP))

Acute inhalation toxicity:

LC50: 47702 mg/m³ - Rat - (National Library of Medicine ChemID Plus (NLM CIP))

Irritant and corrosive effects

Primary irritation to the skin:

Causes skin irritation.

Irritation to eyes:

Causes serious eye irritation.

Irritation to respiratory tract:

not applicable

Respiratory or skin sensitization

In case of skin contact: not sensitising

In case of inhalation: not sensitising

STOT-single exposure

May cause drowsiness or dizziness.

STOT-repeated exposure

Causes damage to organs through prolonged or repeated exposure.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| no data available | ACGIH | IARC | NTP | OSHA |
|-------------------|-------|------|-----|------|
| | | | | |

Germ cell mutagenicity

No indications of human germ cell mutagenicity exist.

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

Aspiration hazard

not applicable

Other adverse effects

no data available

Additional information

no data available

SECTION 12: Ecological information

12.1 Ecotoxicity

Fish toxicity:

LC50: 28 mg/l (96 h) - Pearson, C.R., and G. McConnell 1975. Chlorinated C1 and C2 Hydrocarbons in the Marine Environment. Proc.R.Soc.Lond.B Biol.Sci. 189:305-332

Daphnia toxicity:

LC50: 66.8 mg/l (48 h) - Gersich, F.M., F.A. Blanchard, S.L. Applegath, and C.N. Park 1986. The Precision of Daphnid (Daphnia magna Straus, 1820) Static Acute Toxicity Tests. Arch.Environ.Contam.Toxicol. 15(6):741-749

Algae toxicity:

no data available

Bacteria toxicity:
no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: 1.97 (20 °C)

12.4 Mobility in soil:

no data available

12.5 Results of PBT/vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

12.6 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Appropriate disposal / Product

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal.

Waste code product: 070103

Appropriate disposal / Package

Dispose according to legislation. Handle contaminated packages in the same way as the substance itself.

Additional information

no data available

SECTION 14: Transport information

Land transport (TDG)

| | |
|-------------------------------|------------|
| UN-No.: | 1888 |
| Proper Shipping Name: | CHLOROFORM |
| Class(es): | 6.1 |
| Packing group: | III |
| Environmental hazards: | No |
| Marine pollutant: | No |
| Special precautions for user: | |

Sea transport (IMDG)

| | |
|-----------------------|------------|
| UN-No.: | 1888 |
| Proper Shipping Name: | CHLOROFORM |

| | |
|--|---------|
| Class(es): | 6.1 |
| Classification code: | |
| Hazard label(s): | 6.1 |
| Packing group: | III |
| Environmental hazards: | No |
| Marine pollutant: | No |
| Special precautions for user: | |
| Segregation group: | 10 |
| EmS-No. | F-A S-A |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | |
| not relevant | |

Air transport (ICAO-TI / IATA-DGR)

| | |
|-------------------------------|------------|
| UN-No.: | 1888 |
| Proper Shipping Name: | CHLOROFORM |
| Class(es): | 6.1 |
| Classification code: | |
| Hazard label(s): | 6.1 |
| Packing group: | III |
| Special precautions for user: | |

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Domestic Substance List:

SECTION 16: Other information

Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygienists
DOT - Department of Transportation
IARC - International Agency for Research on Cancer
IATA-DGR - International Air Transport Association-Dangerous Goods Regulations
ICAO-TI - International Civil Aviation Organization-Technical Instructions
IMDG - International Maritime Code for Dangerous Goods
LTV - Long Term Value
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety & Health Administration
PBT - Persistent, Bioaccumulative and Toxic
PEL - Permissible Exposure Limit
STV - Short Term Value
SVHC - Substances of Very High Concern
TDG - Transport of Dangerous Goods
TLV - Threshold Limit Value
vPvB - very Persistent, very Bioaccumulative

Training advice: Provide adequate information, instruction and training for operators.

Additional information

Indication of changes general update

If you need an explanation of the change, contact the supplier.
(SDS@avantorsciences.com)

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guidance. The information in this document is based on the present state knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and his Affiliates shall not be held liable for any damage resulting from handling.