

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 7.5

Revision Date 01.07.2021

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Chloroform for spectroscopy Uvasol®

Product Number : 1.02447

Catalogue No. : 102447

Brand : Millipore

Index-No. : 602-006-00-4

REACH No. : 01-2119486657-20-XXXX

CAS-No. : 67-66-3

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

Identified uses : Reagent for analysis

1.3 Details of the supplier of the safety data sheet

Company : Merck KGaA
Frankfurter Str. 250
D-64271 DARMSTADT

Telephone : +49 (0)6151 72-0

Fax : +49 6151 727780

E-mail address : TechnicalService@merckgroup.com

1.4 Emergency telephone

Emergency Phone # : +(44)-870-8200418 (CHEMTREC (GB))
+(353)-19014670 (CHEMTREC Ireland)
001-803-017-9114 (CHEMTREC India)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 3), H331

Skin irritation (Category 2), H315

Eye irritation (Category 2), H319

Carcinogenicity (Category 2), H351

Reproductive toxicity (Category 2), H361d

Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

Specific target organ toxicity - repeated exposure, Oral (Category 1), Liver, Kidney, H372

For the full text of the H-Statements mentioned in this Section, see Section 16.



2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H302

Harmful if swallowed.

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H331

Toxic if inhaled.

H336

May cause drowsiness or dizziness.

H351

Suspected of causing cancer.

H361d

Suspected of damaging the unborn child.

H372

Causes damage to organs (Liver, Kidney) through prolonged or repeated exposure if swallowed.

Precautionary statement(s)

P201

Obtain special instructions before use.

P301 + P312

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.

P302 + P352

IF ON SKIN: Wash with plenty of water.

P304 + P340 + P311

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.

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.

Supplemental Hazard Statements

none

For use in industrial installations only.

Reduced Labeling (<= 125 ml)

Pictogram



Signal word

Danger

Hazard statement(s)

H331

Toxic if inhaled.

H351

Suspected of causing cancer.

H372

Causes damage to organs through prolonged or repeated exposure if swallowed.

H361d

Suspected of damaging the unborn child.

Precautionary statement(s)

P201

Obtain special instructions before use.

P304 + P340 + P311

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.

P308 + P313

IF exposed or concerned: Get medical advice/ attention.

Supplemental Hazard Statements

none



2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula : CHCl₃
Molecular weight : 119,38 g/mol
CAS-No. : 67-66-3
EC-No. : 200-663-8
Index-No. : 602-006-00-4

Component	Classification	Concentration
Chloroform		
CAS-No. 67-66-3 EC-No. 200-663-8 Index-No. 602-006-00-4	Acute Tox. 4; Acute Tox. 3; Skin Irrit. 2; Eye Irrit. 2; Carc. 2; Repr. 2; STOT SE 3; STOT RE 1; H302, H331, H315, H319, H351, H361d, H336, H372 Concentration limits: 20 %: STOT SE 3, H336;	<= 100 %
ethanol		
CAS-No. 64-17-5 EC-No. 200-578-6 Index-No. 603-002-00-5	Flam. Liq. 2; Eye Irrit. 2; H225, H319 Concentration limits: >= 50 %: Eye Irrit. 2A, H319;	>= 1 - < 10 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.



If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Hydrogen chloride gas

Not combustible.

Fire may cause evolution of:

Hydrogen chloride gas, Phosgene

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.



SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Protected from light. Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Recommended storage temperature see product label.

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

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Viton®

Minimum layer thickness: 0,7 mm

Break through time: 480 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact

Material: butyl-rubber

Minimum layer thickness: 0,7 mm



Break through time: 10 min
Material tested: Butoject® (KCL 898)

Body Protection

protective clothing

Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type AX

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|---|---|
| a) Appearance | Form: liquid
Color: colorless |
| b) Odor | sweet |
| c) Odor Threshold | 205 ppm |
| d) pH | No data available |
| e) Melting point/freezing point | Melting point: -64 °C |
| f) Initial boiling point and boiling range | 60,5 - 61,5 °C at 1.013,25 hPa |
| g) Flash point | - Regulation (EC) No. 440/2008, Annex, A.9 does not flash |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |
| j) Upper/lower flammability or explosive limits | No data available |
| k) Vapor pressure | 210 hPa at 20 °C |
| l) Vapor density | 4,12 - (Air = 1.0) |
| m) Relative density | No data available |
| n) Water solubility | 8,7 g/l at 23 °C - OECD Test Guideline 105- soluble |
| o) Partition coefficient: n-octanol/water | No data available |
| p) Autoignition temperature | No data available |
| q) Decomposition | Distillable in an undecomposed state at normal pressure. |



- temperature
- r) Viscosity Viscosity, kinematic: No data available
 Viscosity, dynamic: No data available
- s) Explosive properties No data available
- t) Oxidizing properties No data available

9.2 Other safety information

- Solubility in other organic solvent at 20 °C
 solvents - miscible
- Relative vapor 4,12 - (Air = 1.0)
 density

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Sensitivity to light heat-sensitive

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

Contains the following stabilizer(s):

ethanol (1 %)

10.3 Possibility of hazardous reactions

Risk of explosion with:

Ammonia

Amines

nitrogen oxides

bases

Oxygen

alkali amides

organic nitro compounds

strong alkalis

Fluorine

peroxi compounds

Alkaline earth metals

Alkali metals

Powdered metals

Methanol

with

alcoholates

Methanol

with

strong alkalis

Iron

in powder form

magnesium

in powder form

various alloys

sensitive to shock

Methanol

with

Sodium hydroxide



Oxygen
with
alkali compounds
Aluminum
in powder form
Acetone
with
alkali compounds
Potassium
sensitive to shock
phosphines
bis(dimethylamino)dimethyl tin
nonmetallic hydrogen compounds
Powdered metals
Light metals
Ketones
mineral acids
Strong oxidizing agents
semimetallic hydrogen compounds
sodium
sensitive to shock
Violent reactions possible with:

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

rubber, various plastics

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute toxicity estimate Oral - 917,17 mg/kg

(Calculation method)

LD50 Oral - Rat - male - 908 mg/kg (Chloroform)

(OECD Test Guideline 401)

Acute toxicity estimate Inhalation - 4 h - 3,13 mg/l

(Calculation method)

Acute toxicity estimate Inhalation - Expert judgment - 4 h - 3,1 mg/l (Chloroform)

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit (Chloroform)

Result: Irritating to skin. - 24 h

Remarks: (ECHA)

Drying-out effect resulting in rough and chapped skin. (Chloroform)

Skin - Rabbit (Chloroform)

Result: slight irritation

Remarks: (IUCLID)



Serious eye damage/eye irritation

Eyes - Rabbit (Chloroform)

Result: Irritating to eyes.

Remarks: (ECHA)

(Regulation (EC) No 1272/2008, Annex VI) (Chloroform)

Respiratory or skin sensitization

Maximization Test - Guinea pig (Chloroform)

Result: negative

(Regulation (EC) No. 440/2008, Annex, B.6)

Germ cell mutagenicity

Test Type: Ames test

(Chloroform)

Test system: Escherichia coli/Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: (ECHA)

Test Type: unscheduled DNA synthesis assay

(Chloroform)

Test system: Liver

Metabolic activation: without metabolic activation

Result: negative

Remarks: (ECHA)

(Chloroform)

Test Type: Micronucleus test

Species: Rat

Cell type: Red blood cells (erythrocytes)

Application Route: Oral

Method: OECD Test Guideline 474

Result: negative

(Chloroform)

Test Type: unscheduled DNA synthesis assay

Species: Rat

Cell type: Liver cells

Application Route: Oral

Method: OECD Test Guideline 486

Result: negative

(Chloroform)

Test Type: in vivo assay

Species: Mouse

Application Route: Inhalation

Result: negative

Remarks: (ECHA)

Carcinogenicity

No data available

Reproductive toxicity

Suspected of damaging the unborn child. (Chloroform)

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness. (Chloroform)



Specific target organ toxicity - repeated exposure

Oral - Causes damage to organs through prolonged or repeated exposure. - Liver, Kidney

Aspiration hazard

No data available

11.2 Additional Information

Repeated dose toxicity - Rat - female - Oral - NOAEL (No observed adverse effect level) - 34 mg/kg

(Chloroform)

(Chloroform)

Vomiting, Cough, irritant effects, Shortness of breath, respiratory arrest, narcosis, Dizziness, Nausea, agitation, spasms, inebriation, Headache, Stomach/intestinal disorders, ataxia (impaired locomotor coordination), cardiovascular disorders (Chloroform)

Drying-out effect resulting in rough and chapped skin. (Chloroform)

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. (Chloroform)

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to algae static test ErC50 - Chlamydomonas reinhardtii (green algae) - 13,3 mg/l - 72 h (Chloroform)

Remarks: (ECHA)

(Chloroform)

Toxicity to bacteria Remarks: (ECHA)

(Chloroform)

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.



H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure if swallowed.

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our 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. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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