

• SAFETY DATA SHEET

Version 8.12
Revision Date 12/23/2025
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SECTION 1. IDENTIFICATION

1.1 Product identifiers

Product name : Carbon tetrachloride

Product Number : 571016
Brand : Aldrich
Index-No. : 602-008-00-5
CAS-No. : 56-23-5

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

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

After June 16, 2025, this chemical substance (as defined in TSCA section 3(2)) may not be distributed in commerce or processed in greater than trace quantities for the following purposes: Incorporation into formulation, mixture or reaction products in petrochemical-derived manufacturing except in the manufacture of vinyl chloride; Industrial and commercial use as an industrial processing aid in the manufacture of petrochemicals-derived products except in the manufacture of vinyl chloride; Industrial and commercial use in the manufacture of other basic chemicals (including manufacturing of chlorinated compounds used in solvents, adhesives, asphalt, and paints and coatings), except for use in the elimination of nitrogen trichloride in the production of chlorine and caustic soda and the recovery of chlorine in tail gas from the production of chlorine; Industrial and commercial use in metal recovery; Industrial and commercial use as an additive; and beginning December 18, 2025, industrial and commercial specialty uses by the U.S. Department of Defense.

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.

Aldrich - 571016

Page 1 of 18

3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

1.4 Emergency telephone number

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-
527-3887 CHEMTREC (International) 24
Hours/day; 7 Days/week

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards for the product as supplied

Acute toxicity (Oral) : Category 3
Acute toxicity (Inhalation) : Category 3
Acute toxicity (Dermal) : Category 3
Skin sensitisation : Sub-category 1B
Carcinogenicity : Category 2
Specific target organ toxicity - repeated exposure (Inhalation) : Category 1 (Liver, Kidney)
Short-term (acute) aquatic hazard : Category 3
Long-term (chronic) aquatic hazard : Category 3
Hazardous to the ozone layer : Category 1

Other hazards

None known.

GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H372 Causes damage to organs (Liver, Kidney) through prolonged or repeated exposure if inhaled.
H412 Harmful to aquatic life with long lasting effects.
H420 Harms public health and the environment by destroying ozone in the upper atmosphere.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.
P302 + P352 + P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.
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.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.
P502 Refer to manufacturer/ supplier for information on recovery/ recycling.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

CAS-No. : 56-23-5

Components

Chemical name	CAS No./Unique ID	Concentration (% w/w)	Trade secret
Carbon tetrachloride	56-23-5*	>= 80 - <= 100	TSC

* Indicates that the identifier is a CAS No.

TSC- the actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

- General advice : First aiders need to protect themselves. Show this 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. Call a physician immediately.
- In case of eye contact : After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.
- If swallowed : If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.
- 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
- Protection of first-aiders : For personal protection see section 8.
- Notes to physician : No data available

SECTION 5. FIREFIGHTING MEASURES

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.
Specific hazards during fire fighting	:	Not combustible. Ambient fire may liberate hazardous vapours.
Hazardous combustion products	:	Carbon oxides Hydrogen chloride gas
Specific extinguishing methods	:	No data available
Further information	:	Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Special protective equipment for fire-fighters	:	Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.
Environmental precautions	:	Do not let product enter drains.

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.

SECTION 7. HANDLING AND STORAGE

For precautions see section 2.2.

Advice on safe handling : Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Further information on storage conditions : Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Storage class : 6.1A, Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

Recommended storage temperature : Recommended storage temperature see product label.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Carbon tetrachloride	56-23-5	TWA	5 ppm	ACGIH
		STEL	10 ppm	ACGIH
		ST	2 ppm 12.6 mg/m ³	NIOSH REL
		TWA	10 ppm	OSHA Z-2
		CEIL	25 ppm	OSHA Z-2
		Peak	200 ppm (5 mins. in any 4 hrs.)	OSHA Z-2
		ECEL-TWA (Inhalation exposure)	0.03 ppm 0.2 mg/m ³	TSCA ECEL

Engineering measures : No data available

Personal protective equipment

- 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 A (acc. to DIN 3181) for vapours of organic compounds

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.

Hand protection

- Material : Viton®
 Break through time : 480 min
 Glove thickness : 0.7 mm
 Protective index : Full contact
 Manufacturer : Vitoject® (KCL 890 / Aldrich Z677698, Size M)

- Material : Nitrile rubber
 Break through time : 240 min
 Glove thickness : 0.4 mm
 Protective index : Splash contact
 Manufacturer : Camatril® (KCL 730 / Aldrich Z677442, Size M)

- Remarks : 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 EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

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

- Skin and body protection : protective clothing

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : colourless

Odor : sweet

Odor Threshold : No data available
pH : No data available

Melting point/ range : -9 °F / -23 °C

Boiling point/boiling range : 171 °F / 77 °C (1,013 hPa)

Flash point : No data available

Evaporation rate : No data available

Burning rate : No data available

Upper explosion limit /
Upper flammability limit : No data available

Lower explosion limit /
Lower flammability limit : No data available

Vapor pressure : 4,524 Pa (32.5 °F / 0.3 °C)
12,046 Pa (67.6 °F / 19.8 °C)
14,549 hPa (75 °F / 24 °C)

Relative vapour density : No data available

Relative density : No data available

Density : 1.59 g/cm³ (68 °F / 20 °C)

Solubility(ies)
Water solubility : 0.8461 g/l (68 °F / 20 °C)
pH: 5.7

Partition coefficient: n-
octanol/water : log Pow: 2.83 (77 °F / 25 °C)
pH: 7
Method: OECD Test Guideline 107

Autoignition temperature : > 1800 °F / > 982 °C

Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: 0.928 mPa.s (77 °F / 25 °C) 1.321 mPa.s (32 °F / 0 °C)
Viscosity, kinematic	: No data available
Flow time	: No data available
Explosive properties	: Not classified as explosive.
Oxidizing properties	: none
Surface tension	: 26.7 mN/m, 68 °F / 20 °C 19.5 mN/m, 176 °F / 80 °C
Molecular weight	: 153.82 g/mol
Particle characteristics	
Particle size	: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No data available
Chemical stability	: The product is chemically stable under standard ambient conditions (room temperature) .
Possibility of hazardous reactions	: Risk of explosion with: Alkali metals powdered aluminium Barium Boranes calcium silicide halogen-halogen compounds peroxi compounds Fluorine powdered magnesium Powdered metals sodium amide silanes silver perchlorate nitrogen dioxide alkenes Oxygen (as liquefied gas)

Oxygen
with
alkali hydroxides
calcium hypochlorite
with
heat
Violent reactions possible with:
Alkaline earth metals
Dimethylformamide
aluminium chloride
with
triethylaluminium

Conditions to avoid : no information available

Incompatible materials : various plastics
Light metals
metal alloys
Metals

Hazardous decomposition : In the event of fire: see section 5
products

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 2,350 mg/kg

Remarks: (RTECS)

LC50 Inhalation - Rat - 4 h - 8000 ppm - vapour

LD50 Dermal - Rabbit - > 20,000 mg/kg

No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Mild skin irritation - 24 h

(Draize Test)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Mild eye irritation - 24 h

(Draize Test)

Respiratory or skin sensitization

- Mouse

Result: The product is a skin sensitiser, sub-category 1B.

(OECD Test Guideline 429)

Germ cell mutagenicity

No data available

Carcinogenicity

Suspected of causing cancer.

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Carbon tetrachloride)
NTP: RAHC - Reasonably anticipated to be a human carcinogen (Carbon tetrachloride)
OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

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

Aspiration hazard

No data available

11.2 Additional Information

RTECS: FG4900000

Vomiting, Diarrhoea, Abdominal pain, Nausea, Dizziness, Headache, Damage to the eyes., Liver injury may occur., Kidney injury may occur., Exposure to and/or consumption of alcohol may increase toxic effects., Contact with skin can cause:, Pain, Erythema, hyperemia

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

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Carbon tetrachloride:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 24.3 mg/l
Exposure time: 96 h
Test Type: mortality

Toxicity to daphnia and : EC50 (Daphnia magna (Water flea)): 35 mg/l
other aquatic : Exposure time: 48 h
invertebrates : Test Type: Immobilization
Method: OECD Test Guideline 202

Toxicity to algae/aquatic : EC50 (Algae): 20 mg/l
plants : Exposure time: 72 h
Test Type: Growth inhibition
Method: OECD Test Guideline 201

Toxicity to fish (Chronic : NOEC (Danio rerio (zebra fish)): 2.5 mg/l
toxicity) : Exposure time: 14 d

Aldrich - 571016

Page 11 of 18

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 3.1 mg/l
Exposure time: 21 d

Persistence and degradability

Components:

Carbon tetrachloride:

Biodegradability : Remarks: No data available

Bioaccumulative potential

Components:

Carbon tetrachloride:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill)
Bioconcentration factor (BCF): 30
Exposure time: 21 d
Concentration: 52.3 µg/l

Partition coefficient: n-octanol/water : log Pow: 2.83 (77 °F / 25 °C)
pH: 7
Method: OECD Test Guideline 107

Mobility in soil

Components:

Carbon tetrachloride:

Stability in soil : Remarks: No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Warning: Manufactured with Carbon tetrachloride, a substance which harms public health and environment by destroying ozone in the upper atmosphere.

Components:

Carbon tetrachloride:

Ozone-Depletion Potential : 1.1
Regulation: UNEP - Handbook for the Montreal Protocol on Substances that Deplete the Ozone Layer (Update: 2020-01-01)
Group: Annex B - Group II: Carbon tetrachloride

1.1
Regulation: 40 CFR Protection of Environment; Part
82 Protection of Stratospheric Ozone - CAA Section
602 Class I Substances (Update: 2007-07-01)
Group: Group IV

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No. : UN 1846
Proper shipping name : Carbon tetrachloride
Class : 6.1
Packing group : II
Labels : Division 6.1 - Toxic substances
Packing instruction (cargo aircraft) : 661
Packing instruction (passenger aircraft) : 654

IMDG-Code

UN number : UN 1846
Proper shipping name : CARBON TETRACHLORIDE

Class : 6.1
Packing group : II
Labels : 6.1
EmS Code : F-A, S-A
Marine pollutant : yes

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

National Regulations

49 CFR Road

UN/ID/NA number : UN 1846
Proper shipping name : Carbon tetrachloride

Aldrich - 571016

Page 13 of 18

Class : 6.1
 Packing group : II
 Labels : Division 6.1 - Toxic substances
 ERG Code : 151
 Marine pollutant : yes

Poison Inhalation Hazard : No

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Carbon tetrachloride	56-23-5	10	10
Carbon tetrachloride	56-23-5	10	10 (D019)
Carbon tetrachloride	56-23-5	10	10 (F001)

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute Health Hazard
 Chronic Health Hazard

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:
 Carbon 56-23-5 >= 90 - <= 100 %
 tetrachloride

Clean Air Act

Warning: Manufactured with Carbon tetrachloride, a substance which harms public health and environment by destroying ozone in the upper atmosphere.

UNEP - Handbook for the Montreal Protocol on Substances that Deplete the Ozone Layer
 Ozone-Depletion Potential : carbon tetrachloride 56-23-5

40 CFR Protection of Environment; Part 82 : Carbon Tetrachloride 56-23-5
Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Ozone-Depletion Potential

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

Carbon tetrachloride 56-23-5 >= 90 - <= 100 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

Carbon tetrachloride 56-23-5 >= 90 - <= 100 %

Clean Water Act

The following Hazardous Substances are listed under the U.S. Clean Water Act, Section 311, Table 116.4A:

Carbon tetrachloride 56-23-5 >= 90 - <= 100 %

The following Hazardous Chemicals are listed under the U.S. Clean Water Act, Section 311, Table 117.3:

Carbon tetrachloride 56-23-5 >= 90 - <= 100 %

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

Carbon tetrachloride 56-23-5 >= 90 - <= 100 %

This product contains the following priority pollutants related to the U.S. Clean Water Act:

Carbon tetrachloride 56-23-5 >= 90 - <= 100 %

US State Regulations

Massachusetts Right To Know

Carbon tetrachloride 56-23-5

Pennsylvania Right To Know

Carbon tetrachloride 56-23-5

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

California Prop. 65

WARNING: This product can expose you to chemicals including Carbon tetrachloride, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

International Regulations

Montreal Protocol : Carbon tetrachloride

The components of this product are reported in the following inventories:

TSCA : All substances listed as active on the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

After June 16, 2025, this chemical substance (as defined in TSCA section 3(2)) may not be distributed in commerce or processed in greater than trace quantities for the following purposes: Incorporation into formulation, mixture or reaction products in petrochemical-derived manufacturing except in the manufacture of vinyl chloride; Industrial and commercial use as an industrial processing aid in the manufacture of petrochemicals-derived products except in the manufacture of vinyl chloride; Industrial and commercial use in the manufacture of other basic chemicals (including manufacturing of chlorinated compounds used in solvents, adhesives, asphalt, and paints and coatings), except for use in the elimination of nitrogen trichloride in the production of chlorine and caustic soda and the recovery of chlorine in tail gas from the production of chlorine; Industrial and commercial use in metal recovery; Industrial and commercial use as an additive; and beginning December 18, 2025, industrial and commercial specialty uses by the U.S. Department of Defense.

The following substance(s) is/are subject to TSCA 12(b) export notification requirements:
Carbon tetrachloride 56-23-5

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL : USA. NIOSH Recommended Exposure Limits
OSHA Z-2 : USA. Occupational Exposure Limits (OSHA) - Table Z-2
TSCA ECEL : TSCA Existing Chemical Exposure Limit
ACGIH / TWA : 8-hour, time-weighted average
ACGIH / STEL : Short-term exposure limit
NIOSH REL / ST : STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA Z-2 / TWA : 8-hour time weighted average
OSHA Z-2 / CEIL : Acceptable ceiling concentration
OSHA Z-2 / Peak : Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift
TSCA ECEL / ECEL-TWA : Existing Chemical Exposure List (TWA)

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx -

Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. 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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Revision Date : 12/23/2025

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US / EN

