

SAFETY DATA SHEET


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TETRAHYDROFURAN

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

1.1 Product identifier:	
CAS Number:	109-99-9
EC number:	203-726-8
1.2 SYNONYMS:	<ul style="list-style-type: none">• 1,4-Epoxybutane• Diethylene oxide• Butylene oxide• Cyclotetramethylene oxide• Furanidine• Hydrofuran• Oxacyclopentane• Tetramethylene oxide

SECTION 2: Hazards identification:

2.1 Classification of the substance or mixture:	Classification according to Regulation (EC) No 1272/2008 The substance is classified according to the CLP regulation.
2.2 Label elements:	Labelling according to Regulation (EC) No 1272/2008 Flammable liquid (Category 2) Acute toxicity, oral (Category 4) Skin corrosion (Category 3) Serious eye damage/irritation (Category 2A) Carcinogenicity (Category 2) Specific target organ toxicity-single exposure, (Category 3)
Hazard Pictograms:	
Signal Word:	Danger

Hazard statements:	<p>H225: Highly flammable liquid and vapour.</p> <p>H302: Harmful if swallowed.</p> <p>H316: Causes mild skin irritation.</p> <p>H319: Causes serious eye irritation.</p> <p>H351: Suspected of causing cancer.</p> <p>H335: May cause respiratory irritation.</p>
Precautionary Statements:	<p>P261: Avoid breathing vapors or mist.</p> <p>P271: Use in a well-ventilated area.</p> <p>P280: Wear appropriate protective gloves, clothing, and eye/face protection.</p> <p>P304+P340: If inhaled, move to fresh air and rest in a position comfortable for breathing.</p> <p>P303+P361+P353: If on skin or hair, remove contaminated clothing and rinse skin with water.</p> <p>P405: Store locked up.</p> <p>P501: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.</p>
2.3 Other hazards:	
Inhalation:	can cause dizziness, headaches, nausea, and central nervous system depression, and prolonged exposure may lead to respiratory irritation or damage.
Ingestion:	can cause nausea, vomiting, abdominal pain, dizziness, and central nervous system depression, and may lead to more severe effects such as respiratory distress or damage with large amounts.
Skin Contact:	can cause irritation, dryness, and defatting of the skin, and prolonged

	exposure may lead to dermatitis or more severe skin damage.
Eye contact:	can cause irritation, redness, pain, and potential damage to the eye tissue, with prolonged exposure leading to more severe effects.
Chronic Exposure:	may lead to liver and kidney damage, central nervous system disorders, and may increase the risk of reproductive toxicity, with prolonged inhalation or skin contact potentially causing dermatitis and other long-term health effects.
Aggravation of pre-existing conditions:	may aggravate pre-existing conditions such as respiratory disorders (e.g., asthma or bronchitis), liver or kidney diseases, and skin conditions (e.g., dermatitis), potentially worsening symptoms or causing further health complications.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation:	Substances
CAS No:	Description: 109-99-9 TETRAHYDROFURAN
Identification number(s):	EC number: 203-726-8

SECTION 4: First aid measures

4.1 Description of first aid measures	
General information:	
After inhalation:	
	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

After skin contact:	Remove contaminated clothing. Wash with soap and water. Consult a physician.
After eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. consult a physician.
After swallowing:	Rinse mouth with water. Immediately after ingestion. Never give anything by mouth to an unconscious person. Do not induce vomiting. Consult a physician.
4.2 Most important symptoms and effects, both acute and delayed:	The most important symptoms include dizziness, headaches, nausea, respiratory irritation, skin and eye irritation, and, with chronic exposure, liver and kidney damage, as well as potential central nervous system depression.
4.3 Indication of any immediate medical attention and special treatment needed:	Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media:	Carbon dioxide. Water spray. Alcohol-resistant foam.
5.2 Special hazards arising from the substance or mixture:	Carbon monoxide, carbon dioxide.
5.3 Advice for firefighters:	Wear fully protective suit, safety glasses and respiratory device. Cool tanks/drums with water spray/remove them into safety.
5.4 further information:	no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Avoid dust accumulation. Seek medical attention.
6.2 Environmental precautions:	Do not enter this chemical into drains.
6.3 Methods and material for containment and cleaning up:	Take up spill into absorbent material, e.g.: sand, earth, vermiculite, powdered limestone. Scoop absorbed substance into closing containers. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:	For use in are with adequate ventilation. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material Do not use in confined spaces. Electrostatic discharge protection. Minimize dust generation and accumulation. Avoid ingestion and inhalation.
7.2 Conditions for safe storage, including any incompatibilities:	Store in original containers. Keep containers securely sealed Store in a cool, dry, well-ventilated area.

	Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Store in a dry and dark area.
Requirements to be met by storerooms and receptacles:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
7.3 Specific end uses:	no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters	
Additional information about design of technical facilities:	A system of local and general exhaust is recommended.
8.2 Exposure controls	
Appropriate engineering controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment:	Dust respirator, protective masks, wearing anti chemical gloves, rubber gloves, etc.
General protective and hygienic measures:	Eyes, body and hand protection, maintain indoor air unobstructed. Wear protective equipment.
	Respiratory protection: Required.
Protection of hands:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws. Wash and dry hands.
	Eye protection: Required

Protection of Body:	Complete suit protecting against chemicals, Flame retardant antistatic protective clothing.
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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties	
General Information	
Appearance: Form:	Liquid
Colour:	Colourless
Odour:	Slightly ether like.
pH-value:	No data available
Melting point/Melting range:	-108°C
Boiling point/Boiling range:	66°C
Flammability (solid, gaseous):	Non flammable
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Self-igniting:	Not applicable
Flash point:	-17°C
Danger of explosion:	Not applicable
Explosion limits: Lower:	1.5%
Explosion limits: Upper:	12%
Vapour pressure:	200 hPa
Density at 20 °C:	0.8892 g/cm ³
Relative density:	0.88
Vapour density:	Not determined
Evaporation rate:	Not applicable
Solubility in / Miscibility with- water at 20 °C:	Completely soluble in water.
Partition coefficient:(n- octanol/water)	Not determined
Viscosity:	Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity	No reaction under storage conditions.
10.2 Chemical stability	This chemical is stable under storage conditions.
10.3 Possibility of hazardous reactions	can react violently with strong oxidizers to form toxic gases.
10.4 Conditions to avoid	Excessive heat, moisture, sparks.
10.5 Incompatible materials	Strong oxidizing agents, Strong acids. Alkali metals, strong reducing agents, peroxides.
10.6 Hazardous decomposition products	Carbon monoxide (CO), Carbon dioxide (CO ₂), Aldehydes and ketones, Peroxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects	
Acute Toxicity:	LD50 (Oral, Rat): 1650 mg/kg LD50 (Dermal, Rabbit): no data available LC50 (Inhalation Rat): no data available
Skin corrosion/Irritation:	Causes mild skin irritation
Serious eye damage/irritation:	Causes serious eye irritation.
Respiratory damage/irritation:	No data available
Ingestion:	No data available
Germ cell mutagenicity:	No data available
Carcinogenicity:	Suspected of causing cancer.
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
Signs and Symptoms of Exposure:	Refer section 2.3
11.2 Additional toxicological information	

Biodegradability:	readily biodegradable
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SECTION 12: Ecological information

12.1 Toxicity Aquatic toxicity:	LC50(fish): 2160 mg/l (96hr) EC50(daphnia): 3485 mg/l (48hr) EC50(algae): no data available
12.2 Persistence and degradability:	Readily biodegradable and persistent
12.3 Bioaccumulative potential:	low bioaccumulative
12.4 Mobility in soil:	High mobility
12.5 Other adverse effects:	No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods	
Uncleaned packaging Recommendation:	dispose of in accordance with local hazardous waste regulations
Recommended cleansing agents:	Water, Soap or Detergent, Absorbent Materials, Solvent.

SECTION 14: Transport information

14.1 UN-Number · ADR, ADN, IMDG, IATA:	2056
14.2 UN proper shipping name · ADR, ADN, IMDG, IATA:	TETRAHYDROFURAN
14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA :	3
14.4 Packing group · ADR, IMDG, IATA:	2
14.5 Environmental hazards:	Not applicable
14.6 Special precautions for user:	Handle responsibly.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Directive 2012/18/EU	Directive 2012/18/EU, under that this substance is not classified in listed substance
Named dangerous substances:	This substance is not listed in the annex 1 to the directive.
15.2 Chemical safety assessment:	Chemical assessment has not been carried out.

SECTION 16: Other information

The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.