



SAFETY DATA SHEET

TETRAHYDROFURAN

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

Product name: TETRAHYDROFURAN

Recommended use: Chemical for industrial.

Manufacturer/Supplier: **MODERN CHEMICAL CO., LTD.**
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2. HAZARDS IDENTIFICATION

Label elements

Pictogram



Signal word

Danger

Hazard statement(s):

- 1.) Highly flammable liquid and vapour.
- 2.) Suspected of causing cancer.
- 3.) Harmful if swallowed.
- 4.) Causes serious eye irritation.
- 5.) May cause respiratory irritation.
- 6.) Causes mild skin irritation.

Precautionary statement(s):

- 1.) Keep away from heat/sparks/open flames/hot surfaces. - No smoking
- 2.) Use explosion-proof electrical/ventilating/lighting/equipment.



- 3.) IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/ shower
- 4.) IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- 5.) Store locked up.
- 6.) Dispose of contents/container in accordance with local/regional/national/international regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonym: 1,4-Epoxybutane; Diethylene oxide; Butylene oxide; Cyclotetramethylene oxide; Furanidine; Hydrofuran; Oxacyclopentane; Tetramethylene oxide

Ingredients	% (w/w)	CAS NO.
TETRAHYDROFURAN	100	109-99-9

4. FIRST AID MEASURES

- General advice:** No data available
- Inhalation:** Supply fresh air; consult doctor in case of complaints
- Skin contact:** Immediately wash with water and soap and rinse thoroughly.
- Eye contact:** Rinse opened eye for 15 minutes under running water. If symptom persists consult a doctor.
- Ingestion:** Do not induce vomiting; call for medical help immediately.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Unsuitable Extinguishing Media:

No data available

Specific hazards arising from Chemicals:

Carbon monoxide (CO) Carbon dioxide (CO₂) Vapours are heavier than air and may spread along floors

Special protective equipment for fire-fighters:

Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves).



6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear protective equipment. Keep unprotected persons away. Keep away from ignition sources. Ensure adequate ventilation. Do not breathe dust/fume/gas/mist/vapours/spray. Use respiratory protective device against the effects of fumes/dust/aerosol.

Environmental precautions: Dilute with plenty of water. Do not allow to enter sewers/ surface or ground water.

Methods and Material for Containment and Clean Up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Ensure adequate ventilation.

7. HANDLING AND STORAGE

Precautions for Safe Handling & Product Transfer:

Wear protective gloves/protective clothing/eye protection/face protection. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Ensure good ventilation/exhaustion at the workplace. Open and handle receptacle with care. Prevent formation of aerosols. Avoid breathing vapor.

Conditions for Safe Storage & Unsuitable Materials:

Store in cool, dry place in tightly closed receptacles. Keep container tightly sealed. Store in the following material(s): Carbon steel

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits: TLV-STEL 100 ppm

Appropriate Engineering Controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual Protection Measures

Respiratory protection: In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device. Short term filter device: Filter A/P2

Hand protection: The selected protective gloves have to satisfy the specifications of standard EN 374 or its equivalent.



- Eye protection:** Safety glasses with side shields conforming to EN166, ANSI 87.1-2010, or equivalent.
- Skin and body protection:** Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- Hygiene measures:** Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin. Be sure to clean skin thoroughly after work and before breaks.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form, Color and Odor : liquid, colourless, Ether-like odour	Evaporation rate : N/A
Melting Point : -108.5°C	Specific gravity : 0.8892 g/cm ³ at 20 °C
pH : N/A	Solubility in water : Fully miscible
Boiling point : 66 °C	Viscosity : N/A
Vapour pressure : 200 hPa at 20 °C	Vapour density : N/A
Lower explosion limits : 1.5 %Vol	Upper explosive limit : 12 %Vol
Auto-ignition temperature : 230 °C	Flash point : -17 °C
Odour threshold : N/A	Flammability (solid, gas) : N/A
Decomposition temperature : N/A	Solubility in other solvents : N/A
n-octanol/water partition coefficient (log P_{ow}) : 0.45 at 25°C	

10. STABILITY AND REACTIVITY

- Chemical Stability:** May form explosive peroxides. This product is stable under prescribed use and storage. Stabilizer: BHT
- Reactions:** No dangerous reaction is known.
- Possibility of Hazardous Reactions:** Possible formation of peroxide.
- Conditions to avoid** Warming
- Materials to be avoided:** Oxygen, Aluminium, bronze, Zinc, Tin, various plastics, rubber
- Hazardous Decomposition Products:** Peroxides.



11. TOXICOLOGICAL INFORMATION

- Acute toxicity:** LD50 (Oral, rat): 1,650 mg/kg
- Sensitization:** Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product
- Chonic toxicity:** No data available.
- Further toxicological information:** No data available

12. ECOLOGICAL INFORMATION

Toxicity

- Toxicity to fish: LC50 - Freshwater fish, 96h: 2160 mg/l
- Toxicity to daphnia and other aquatic invertebrates:
EC50 - Daphnia magna, 48h: 3485 ppm
- Toxicity to algae: No data available.
- Toxicity to bacteria: No data available.
- Biodegradability remark: The product is not easily, but potentially biodegradable.
Degradation: 39% (28d, OECD 301D)
- Bioaccumulative potential: Bioaccumulation is not expected.
Partition coefficient, n-octanol/water (log Pow): 0.45 at 25 °C
- Mobility: No further relevant information available.
- Affected in any other way: Slightly hazardous for water.

13. DISPOSAL CONSIDERATIONS

- Material Disposal:** After prior treatment product has to be disposed of in an incinerator for hazardous waste adhering to the regulations pertaining to the disposal of particularly hazardous waste. Must not be disposed together with household garbage. Do not allow product to reach sewage system. Any disposal method should also comply with national, regional, provincial, and local laws.



Container Disposal: Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning. Empty containers may still contain hazardous residue.
Disposal must be made according to official regulations.

14. TRANSPORT INFORMATION

ADR/RID

UN-NO: 2056 Class: 3 Packing group: II

Proper shipping name: TETRAHYDROFURAN

IMDG

UN-NO: 2056 Class: 3 Packing group: II

EMS Number: F-E, S-D Marine pollutant: No

Proper shipping name: TETRAHYDROFURAN

IATA

UN-NO: 2056 Class: 3 Packing group: II

Proper shipping name: TETRAHYDROFURAN

15. REGULATORY INFORMATION

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

Status of global inventories:

All component(s) within this product is listed or exempted from the following country's chemical inventory:

USA – TSCA

Australia – AICS

Canada – DSL

China – IECSC

EU – EINECS/NLP

Japan – ENCS

Korea – KECI

New Zealand – NZIoC

Philippines – PICCS

Taiwan – ECSI

Mexico - INSQ



Chemical safety assessment: A Chemical Safety Assessment has been carried out

16. OTHER INFORMATION

Modern Chemical Co., Ltd. provides the information contained herein in good faith but makes no representation as to its comprehensive or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

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