

MATERIAL SAFETY DATA SHEET

Version :01

PRODUCT NAME: TETRAHYDROFURAN

CAS Number: 109-99-9

1. IDENTIFICATION:

Product Code : 90049, 90067, 90075, 90259, 90575, 90726, 90769, 91650, 94057, 94110, 96522, 97236, 98722, 98723, 98122

Company Name : ADVENT CHEMBIO PRIVATE LIMITED

Address : W-279, MIDC, TTC INDUSTRIAL AREA, THANE-BELAPUR ROAD, RABALE, NAVI MUMBAI - 400 701.

E-mail : sales@adventchembio.com

WEBSITE : www.adventchembio.com

Company Phone Number : 022-27690837

2. HAZARDS IDENTIFICATION:**Hazard classification****Physical hazards**

Flammable Liquids : Category 2

Health hazards


Acute toxicity, Oral : Category 4

Eye irritation : Category 2

Carcinogenicity : Category 2

Specific target organ toxicity : Single exposure- Category 3 (Central nervous system & Respiratory system)

Labels elements :

Hazard symbol : 

Signal word : Danger

Hazard statement : Highly flammable liquid and vapor.
Harmful if swallowed.
Causes serious eye irritation.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.

Precautionary statement

Prevention : Obtain special instructions before use.
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Do not handle until all safety precautions have been read and understood.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
Keep container tightly closed. Ground/ bond container and receiving equipment.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: TETRAHYDROFURAN

CAS Number: 109-99-9

- Response** : Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools. Take precautionary measures against static discharge.
: IF exposed or concerned: Get medical advice/ attention.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- Storage** : Store in a dry & well-ventilated place. Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- Disposal** : Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
- Other hazards which do not result in GHS classification** : Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. COMPOSITION/ INFORMATION ON INGREDIENTS:

Ingredient	CAS Number	Percent	Hazardous
Tetrahydrofuran	109-99-9	NLT 99.0%	Yes

4. FIRST AID MEASURES:

- General information** : Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
- Ingestion** : Call a physician or poison control center immediately. Rinse mouth. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
- Inhalation** : Move to fresh air. Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen.
Get medical attention if symptoms persist.
- Skin contact** : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
- Eye contact** : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
- Most important symptoms/effects, acute and delayed** : The most important known symptoms and effects are described in the labelling.
- Indication of immediate medical attention and special treatment needed** : No data available.

MATERIAL SAFETY DATA SHEET

Version :01

PRODUCT NAME: TETRAHYDROFURAN

CAS Number: 109-99-9

5. FIRE FIGHTING MEASURES:

General information : Flammable liquid and vapor.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam, dry powder or carbon dioxide.

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

Specific hazards arising from the chemical : Carbon oxides Combustible. Pay attention to flashback. Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

Special protective equipment and precautions for firefighters

Special firefighting procedures : Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Special protective equipment for fire-fighters : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. ACCIDENTAL RELEASE MEASURES:

Personal precautions, protective equipment and emergency procedures : ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid breathing mists or vapors. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up : Eliminate all ignition sources if safe to do so. Use only non-sparking tools. Take precautionary measures against static discharges. Stop leak if possible without any risk. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures : Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental precautions : Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. HANDLING AND STORAGE:

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/ face protection. Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapor. Use only with adequate ventilation. Wash hands thoroughly after handling.

Conditions for safe storage, including any : Keep away from food, drink and animal feeding stuffs. Keep container tightly closed in a dry, well-ventilated place. Ground container and transfer equipment to eliminate static electric

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: TETRAHYDROFURAN

CAS Number: 109-99-9

incompatibilities sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

8. EXPOSURE CONTROLS PERSONAL PROTECTION:

Control parameters

Ingredients with workplace control parameters

Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Workers	Skin contact	Long-term systemic effects	25mg/kg BW/d
Consumers	Skin contact	Long-term systemic effects	15mg/kg BW/d
Workers	Inhalation	Long-term local effects	150 mg/m3
Workers	Inhalation	Long-term systemic effects	150 mg/m3
Consumers	Inhalation	Long-term systemic effects	62 mg/m3
Consumers	Inhalation	Acute local effects	150 mg/m3
Consumers	Inhalation	Acute systemic effects	150 mg/m3

Predicted No Effect Concentration (PNEC)

Compartment	Value
Soil	2,13 mg/kg
Sea water	0,432 mg/l
Fresh water	4,32 mg/l
Sea sediment	2,33 mg/kg
Fresh water sediment	23,3 mg/kg
Onsite sewage treatment plant	4,6 mg/l

Individual protection measures, such as personal protective equipment

General information : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/face protection : Wear safety glasses with side shields (or goggles).

Hand protection : Chemical resistant gloves.

Other : Wear suitable protective clothing.

Respiratory protection : In case of inadequate ventilation use suitable respirator. Chemical respirator with organic vapor cartridge.

Hygiene measures : Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower. Avoid contact with eyes, skin, and clothing.

MATERIAL SAFETY DATA SHEET

Version :01

PRODUCT NAME: TETRAHYDROFURAN

CAS Number: 109-99-9

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance	: Clear, colorless liquid
Odor	: No data available.
Solubility	: Miscible with water, ethanol, acetone, ether, benzene and most organic solvents.
Formula	: C ₄ H ₈ O
Molecular Weight	: 72.11 g/mol
Density	: 0.886 - 0.889 g/cm ³ at 25°C
pH	: 7-8
% Volatiles by volume @ 21C (70F)	: No data available.
Boiling Point	: 65.0 - 67.0°C
Melting Point	: -108°C
Flash Point	: -21.2 °C
Vapor Density (Air=1)	: No data available.
Vapor Pressure (mm Hg)	: No data available.
Evaporation Rate (BuAc=1)	: No data available.

10. STABILITY AND REACTIVITY:

Reactivity	: Formation of peroxides possible. Vapors may form explosive mixture with air.
Chemical stability	: Sensitivity to light, Sensitive to air. Material is stable under ambient conditions..
Possibility of hazardous reactions	: No data available.
Conditions to avoid	: Distillation (Risk of explosion), Warming, Moisture.
Incompatible materials	: No data available.
Hazardous decomposition products	: Peroxides, In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION:**Acute toxicity (list all possible routes of exposure)**

Oral Product	: LD 50 (Rat): 1.650 mg/kg
Dermal Product	: LD 50 (Rat): 2.000 mg/kg
Inhalation Product	: LC 50 (Rat): 14.7 mg/l - vapor
Repeated dose toxicity Product	: No data available.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: TETRAHYDROFURAN

CAS Number: 109-99-9

Skin corrosion/irritation Product	: No skin irritation
Serious eye damage/eye irritation Product	: Causes serious eye irritation.
Respiratory or skin sensitization Product	: Negative
Carcinogenicity Product	: Suspected of causing cancer.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans	: No data available.
US. National Toxicology Program (NTP) Report on Carcinogens	: No data available.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	: No data available.
Germ cell mutagenicity	
In vitro Product	: No data available.
Reproductive toxicity Product	: No data available.
Specific target organ toxicity - single exposure Product	: Inhalation - May cause respiratory irritation. - Central nervous system. May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure Product	: No data available.
Aspiration hazard Product	: No data available.
Other effects	: This substance should be handled with particular care.

12. ECOLOGICAL INFORMATION:**Ecotoxicity****Acute hazards to the aquatic environment**

Fish Product : LC 50 Pimephales promelas (fathead minnow) 96 h): > 2.160 mg/l .

Aquatic invertebrates Product : EC 50 (Water flea (Daphnia magna), 48 h): 3.485 mg/l .

Chronic hazards to the aquatic environment

Fish Product : Flow-through test NOEC - Pimephales promelas (fathead minnow) - 216 mg/l - 33 d

Aquatic invertebrates Product : No data available.

Toxicity to Aquatic Plants Product: : No data available.

MATERIAL SAFETY DATA SHEET

Version :01

PRODUCT NAME: TETRAHYDROFURAN

CAS Number: 109-99-9

Persistence and degradability**Biodegradation Product** : Aerobic Biochemical oxygen demand - Exposure time 28 d**BOD/COD ratio Product** : No data available.**Bioaccumulative potential****Bioconcentration factor (BCF) Product** : No data available on bioaccumulation.**Partition coefficient n-octanol / water (log Kow) Product** : No data available.**Mobility in soil** : No data available.**Other adverse effects** : No data available.**13. DISPOSAL CONSIDERATION:****Disposal instructions** : Discharge, treatment, or disposal may be subject to national, state, or local laws. Disposal recommendations are based on uncontaminated material.**Contaminated packaging** : Since emptied containers retain product residue, follow label warnings even after container is emptied.**14. TRANSPORT INFORMATION:**

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
ADR/RID	UN 2056	Tetrahydrofuran	3	II	No
IMDG	UN 2056	Tetrahydrofuran	3	II	No
IATA	UN 2056	Tetrahydrofuran	3	II	No

15. REGULATORY INFORMATION:

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
Safety, health and environmental regulations/legislation specific for the substance or mixture
No Data Available.

MATERIAL SAFETY DATA SHEET

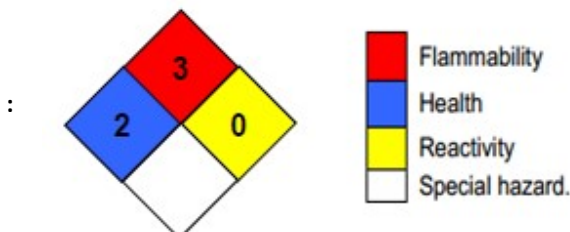
Version :01

PRODUCT NAME: TETRAHYDROFURAN

CAS Number: 109-99-9

16. OTHER INFORMATION:

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue Date : 17/07/2023

Version : 01

Disclaimer: This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. ADVENT CHEMBIO PRIVATE LIMITED makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the technical instructor in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of ADVENT CHEMBIO PRIVATE LIMITED and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).