

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Trade name: THF (Tetrahydrofuran)
Brand: DIYChemicals, Chemboys

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

Relevant identified uses: Industrial or Commercial Use only.
Uses advised against: All other uses.

1.3 Details of the supplier of the Safety Data Sheet

Chemboys LLC
212 Industrial Place,
Liberty, TX 77575,
USA

Phone: (855) 243-6722
E-mail: info@chemboys.com

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to OSHA Hazardous Communication Standard 29 CFR 1910.1200.

Flammable liquid, category 2
Acute Tox. 4, H302
Eye irritation, category 2
Specific target organ toxicity -single exposure, category 3
Specific target organ toxicity -single exposure, category 3
Carcinogenicity, category 2

2.2 Label elements

Labelling according to OSHA Hazardous Communication Standard 29 CFR 1910.1200:



Signal word:

Danger

Hazard statements:

H225	Highly flammable liquid and vapor.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.

Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P330 Rinse mouth.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

2.3 Other hazards

None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture meeting the criteria for classification in accordance with OSHA Hazardous Communication Standard 29 CFR 1910.1200.

Ingredients:

Name	CAS No.	GHS classification	% (w/v)
Tetrahydrofuran	109-99-9	Flamm. Liq. 2, H225 Acute Tox. 4, H302 Eye Irrit. 2, H319 STOT SE 3, H335 STOT SE 3, H336 Carc. 2, H351	>99

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Following inhalation: Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact: Rinse skin with water/shower.

Following eye contact: Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

Following ingestion: Rinse mouth with water (only if the person is conscious). In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Protection of first aider: Not applicable.

4.2 Most important symptoms and effects

Symptoms: The known symptoms and effects are described in section 2.2 of this SDS.

Risks: Untreated symptoms may result in additional health risks.

4.3 Indication of any immediate medical and special treatment

The physician may contact the national poison centre for advice.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Dry chemical, CO₂, water spray or alcohol-resistant foam.

Unsuitable extinguishing media: No data available.

5.2 Specific hazards arising from mixture

Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapour/air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

5.3 Advice for fire fighters

Special protective equipment for firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

5.4 Other information

No other information available.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 NOTES FOR NON-EMERGENCY PERSONNEL: Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance of ignition sources.

6.2 ENVIRONMENTAL PRECAUTIONS: Keep away from drains, surface and ground water. Danger of explosion.

Notes for those trained to participate in an emergency:

6.3 ACCIDENTAL RELEASE MEASURES: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Provision of sufficient ventilation. Avoid exposure. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions: Store in a well-ventilated place. Keep container tightly closed.

Incompatible materials: See section 10.

7.3 Specific end uses

See section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Relevant DNELs and other threshold levels				
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	72,4 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	96 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
DNEL	150 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects

8.2 Exposure controls

Engineering controls:

Ensure that eyewash stations and safety showers are close to the workstation location. Handle only in a place equipped with local exhaust (or other appropriate exhaust).

Personal Protective equipment:

<u>Hand:</u>	Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.
<u>Body protection:</u>	Appropriate protective clothing should be worn to prevent skin contact.
<u>Eye:</u>	Use safety goggle with side protection.
<u>Respiratory:</u>	Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C , colour code: Brown).
<u>Other measures:</u>	No statement available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid
Color:	Colorless
Odor:	Ether like
Odor threshold:	No data available
pH:	7 – 8
Melting point/range:	-108,5 °C
Boiling point/range:	65 °C at 1.013 hPa
Flash point:	-21,2 °C at 1.013 hPa
Evaporation rate:	No data available
Flammability:	flammable liquid in accordance with GHS criteria
Upper/lower flammability or explosive limits:	1,5 vol% (LEL) - 12,4 vol%
Vapor pressure:	170 hPa at 20 °C
Vapor density:	No data available
Relative Density:	0,883 g /cm ³ at 25 °C
Solubility(ies):	miscible in any proportion (water)
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	215 °C
Decomposition temperature:	No data available
Viscosity:	No data available
Explosive properties:	No data available
Oxidizing properties:	No data available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

It's a reactive substance. Risk of ignition. Vapours may form explosive mixtures with air. May form explosive peroxides.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: strong oxidiser, Alkali hydroxide (caustic alkali), Acids.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. UVradiation/sunlight.

10.5 Incompatible materials

Rubber articles, different plastics, tin.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5. Peroxides.

SECTION 11: TOXICOLOGICAL INFORMATION

General information:

This product does not contain known human carcinogens.

11.1 Information on toxicological effects

Acute Toxicity:

No statements available for any of the ingredients.

Skin corrosion/irritation:

No statements available for any of the ingredients.

Serious eye damage/irritation:

Causes serious eye irritation.

Respiratory or skin sensitization:

No statements available for any of the ingredients.

Germ cell mutagenicity:

No statements available for any of the ingredients.

Carcinogenicity:

Suspected of causing cancer.

Reproductive toxicity:

No statements available for any of the ingredients.

STOT – single exposure:

May cause respiratory irritation. May cause drowsiness or dizziness.

STOT – repeated exposure:

No statements available for any of the ingredients.

Aspiration hazard:

No statements available for any of the ingredients.

Likely route(s) of exposure:

Skin exposure and eye exposure are the most likely to occur. Accidental ingestion is also possible.

SECTION 12: ECOLOGICAL INFORMATION

General information:

No statements available for any of the ingredients.

12.1 Toxicity

No statements available for any of the ingredients.

12.2 Persistence and degradability

Physical- and photochemical elimination:

No statements available for any of the ingredients.

Biodegradation:

No statements available for any of the ingredients.

12.3 Bioaccumulative potential

No statements available for any of the ingredients.

12.4 Mobility in soil

Known/Predicted environmental distribution:

No statements available for any of the ingredients.

Surface tension:

No statements available for any of the ingredients.

Adsorption/Desorption:

No statements available for any of the ingredients.

12.5 Results of PBT and vPvB assessment

This product does not contain components which are considered to be 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 statements available for any of the ingredients.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product:

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

Waste material:

Dispose according to Federal, State, Provincial and Local regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

ADR/RID/IDMG/IATA: UN 2056

14.2 UN proper shipping name

ADR/RID/IDMG/IATA: TETRAHYDROFURAN

14.3 Transport hazard class(es)

ADR/RID/IDMG/IATA: 3

14.4 Packing group

ADR/RID/IDMG/IATA: II

14.5 Environmental hazards

ADR/RID/IDMG/IATA: Non-regulated

14.6 Special precautions for user

No statements available.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable, as product is not shipped in bulk.

SECTION 15: REGULATORY INFORMATION

International Inventories

TSCA: Complies

DSL: All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List.

US Federal Regulations

SARA 313: Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard: Yes
Chronic Health Hazard: Yes
Fire hazard: Yes
Sudden release of pressure hazard: No
Reactive Hazard: No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This product contains the following CERCLA reportable substance: Tetrahydrofuran (CAS #109-99-9): RQ = 453.6 kg (1,000 lb).

U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

WARNING: This product will expose you to Tetrahydrofuran, which is known to the state of California to cause cancer.

Canada

WHMIS Hazard Class

Not determined.

SECTION 16: OTHER INFORMATION

Further information

The information presented in this Safety Data Sheet (SDS) is accurate to the best of our knowledge at the date of publication. The information given within the SDS is meant solely as a guide for safe handling, use, transportation, processing, storage, release and disposal. In no means can the information within the SDS be considered as a warranty or specification for quality.