JHD®

Material Safety Data Sheet

1. Identification of the substance/preparation and of the company/undertaking

Identification of the product
Tetrahydrofuran
Manufacturer/supplier identification
Company: Guangdong Guanghua Sci-Tech Co.,Ltd
Address: No.295 Daxue Road,Shantou
PostCode:515000
E-mail: export@jinhuada.com
Emergency telephone No.: +86-754-82515813.
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2. Hazards identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 2)
Acute toxicity, Oral (Category 4)
Eye irritation(Category 2A)
Specific target organ toxicity – single exposure(Category 3) , Respiratory system
Carcinogenicity(Category 2)

Label elements
Pictogram

Signal word Danger

Hazard statement(s)
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 statement(s)
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof [electrical/ventilating/lighting/.../] equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash body thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P312	If swallowed: call a poison center/ doctor if you feel unwell.
P305 + P351 + P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	If exposed or concerned: Get medical advice/ attention.

3. Composition/information on ingredients

Synonyms
Tetrahydrofuran
CAS-No.: 109-99-9
M: 72.10g/mol
Molecular formula: C_4H_8O

4. First aid measures

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. Fire-fighting measures

Suitable extinguishing media
Use alcohol-resistant foam, dry chemical or carbon dioxide.

Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

Personal precautions
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

Environmental precautions
Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. Handling and storage

Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place.

8. Exposure controls/personal protection

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

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

Skin protection
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 and good laboratory practices. Wash and dry hands.
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Do not let product enter drains. Discharge into the environment must be avoided.

9. Physical and chemical properties

Form: liquid

Colour: colorless

Odour: ether-like

pH value: not available

Melting point: -108. 5 ℃

Boiling point: 65~66 ℃

Ignition temperature: 321.0 ℃

Flash point: -17 ℃

Autoignition temperature: not available

Explosion limits

lower: 1.8 %(V) - (THF)

upper: 11.8 %(V) - (THF)

Density : 0.89 g/cm^3

Bulk density: not available

Solubility in

water (20 ℃) : miscible

diluted acids (20 ℃) : not available

Thermal decomposition: not available

10. Stability and reactivity

Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .
Contains the following stabilizer(s):

butyl hydroxytoluene (BHT) (<0,0250,0249 %)

Conditions to avoid
Heat, flames and sparks.
Warming.
Moisture.

Materials to avoid
rubber, various plastics, Tin

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

11. Toxicological information

Acute toxicity
Acute toxicity estimate Oral - 1.651 mg/kg
(Calculation method)
LD50 Oral - Rat - male and female - 1.650 mg/kg
Remarks:
(ECHA)
Symptoms: Irritation of mucous membranes
LC50 Inhalation - Rat - male and female - 4 h - > 16,9 mg/l
(US-EPA)
Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract
LD50 Dermal - Rat - male and female - > 2.000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 72 h
(Draize Test)
Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Eye irritation
Remarks:
(ECHA)
(Regulation (EC) No 1272/2008, Annex VI)

Respiratory or skin sensitization
Local lymph node assay (LLNA) – Mouse
Result: negative
(OECD Test Guideline 429)

Germ cell mutagenicity
In vivo tests did not show mutagenic effects
In vitro mammalian cell gene mutation test
Chinese hamster ovary cells
Result: negative
Ames test
Salmonella typhimurium
Result: negative

Carcinogenicity

Suspected of causing cancer.
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation. - Respiratory system
May cause drowsiness or dizziness. - Nervous system

Specific target organ toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard
No data available

12. Ecological information

Toxicity
Toxicity to fish flow-through test LC50 - Pimephales promelas (fathead minnow) - 2.160 mg/l - 96 h
(OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates
static test EC50 - Daphnia magna (Water flea) - 3.485 mg/l - 48 h
(OECD Test Guideline 202)
Toxicity to bacteria static test EC20 - activated sludge - ca. 800 mg/l - 0,5 h
(OECD Test Guideline 209)

Persistence and degradability
Biodegradability aerobic Biochemical oxygen demand - Exposure time 28 d
Result: 39 % - Not readily biodegradable.
(OECD Test Guideline 301D)

Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects

No data available

13. Disposal considerations

Product
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

14. Transport information

ADR/RID
UN-Number:2056 Class:3 Packing group: Ⅱ
Proper shipping name: TETRAHYDROFURAN

IMDG

UN-Number:2056 Class:3 Packing group: Ⅱ
Proper shipping name: TETRAHYDROFURAN
Marine pollutant: no

IATA
UN-Number: 2056 Class: 3 Packing group: Ⅱ
Proper shipping name: Tetrahydrofuran

15. Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

16. Other information

General update.
Regional representation:
This information is given on the authorised Safety Data Sheet for your country.