Material Safety Data Sheet

Part 1 Chemical and company’s information
Name of Chemical: SULFOLANE
Synonyms: Tetramethylene Sulfone; Sulfolane Anhydrous; Tetrahydrothiophene 1,1-dioxide
Molecular formula:C₄H₈O₂S
Molecular weight: 120.17
Name of company: Liaoyang Guanghua Chemical Co., Ltd
Address: No.168-19 Qingnian Street, Liaoyang, Liaoning, China
Postal Code: 111000
Code of MSDS: GH-D-027
Revision No. 7
Revision Date: Jan.1st, 2013
Tel: 0086-419-2313380/381/382 Fax: 0086-419-2313289

Part 2 Ingredients/Identity Information
Pure product (√) Mixture ( )
Name of Chemical: SULFOLANE CAS NO.: 126-33-0
EINECS# 204-783-1
Hazard Symbols: XN
Risk Phrases: 22
Harmful ingredient: Sulfur Dioxide concentration: ≤ 20mg/Kg

Part 3 Description of Dangerous Nature
Type of dangerous nature: sulfolane is not dangerous product
Invading way: by breathing, by eating, by skin
Harm to health: can slightly hurt one’s eye, symptom is: with tears and small quantity of blood; can slightly hurt one’s skin, symptom is: the skin is burnt or appear small red point. According to Chinese standard, Swallowing small quantity of this material is not harmful, but big quantity is harmful. Steam of this material could be breathed into one’s body, but small quantity is not harmful and big quantity is harmful.
Harm to Environment: No data
Danger of burning and explosion : Flame of welding and cutting may cause danger of burning and explosion.

Part 4 Emergency Treatment Measures
Skin: Flush skin with soap and clean water. Flush skin for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Eyes: Flush with circulating water or physiological saline. Flush eyes for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Part 5  Fire Prevention Measures
General Information:
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Containers may explode in the heat of a fire.

Characteristics of danger: it can burn with fire or high temperature.
Method of extinguish a fire and material to be used: can use water, CO₂, dried vermicelli, foam or sand. Cool containers with flooding quantities of water until well after fire is out.

Part 6  Emergency Treatment of leakage
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Scoop up with a nonsparking tool, then place into a suitable container for disposal.

Big quantity: remove all fire source, close the leakage source and try to recover.

Part 7  Operation and Storage
Points for attention in operations: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Assure enough ventilated in order to decrease the pollution to environment.

Points for attention in storage: store in cool, dry and well ventilated warehouse and be far away from fire source. There should be equipment for emergency treatment of leakage and suitable recovering material.

Part 8  Contact control/Personal Protection
Maximum permitted concentration: No data
Monitoring Method: Chemical Analysis

Process Control: Close the manufacturing equipment, ventilate the surrounding environment.
Breathe system protection: Put on self-sufficient respirator in the high concentration environment.
Eye protection: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin protection: Wear appropriate protective gloves and clothing to prevent skin exposure.
Clothing: Wear appropriate protective clothing to minimize contact with skin.
Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Other protection: No smoking, eating, drinking on the work site. Avoid having alcoholic drink before working. Taking shower and change cloths after working. Make body examination before job and periodically.

Part 9: Physical / Chemical Characteristics
Appearance: colorless to straw transparent liquid
Melting Point: 27.6°C  Boiling Point: 285°C
Relative density(30°C, water=1): 1270 Kg/m³
Relative steam density(air=1): 4.200
Saturated steam pressure(kPa): No data  Combustion heat(KJ/mol): No data
Critical temperature(°C): No data  Critical pressure(Mpa): No data
Caprylic acid /water allocation comparative coefficient: No data
Flash point: 170°C  Upper limit of explosion%(V/V): No data
Temperature for burning(°C): No data  Lower limit of explosion%(V/V): No data
Dissolving characteristics: Sulfolane is high polarity solvent, which has excellent chemical characteristics and stability. It can dissolve in water and it is excellent solvent for most kinds of organic chemical compound and many common polymer.
Main applications:
1. Sulfolane has high dissolving property and selectivity, so it is suitable for petrochemical industry. It is widely used as excellent solvent for aromatic extraction and removing sulphur from natural gas.
2. Sulfolane is a multi-effective solvent with high purity and high boiling point, so it is suitable for chemical industry. This solvent can be used for the halogenate, methylization, organic synthesis, condensation and polymerization reaction in the field of pharmaceutical chemicals, agricultural chemicals, dyestuff, perfume, special industrial plastic and some other chemicals.

Part 10: Stability and Reaction Activity
Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, strong oxidants.
Incompatibilities with Other Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide, oxides of sulfur, irritating and toxic fumes and gases, carbon dioxide.
Hazardous Polymerization: Has not been reported.

Part 11: Toxicology Information
Acute Toxicity: It is low toxicity product, Poisonousness going acutely through the mouth of big mouse is: LD₅₀>1900mg/Kg
RTECS#: 
CAS# 126-33-0: XN0700000
LD50/LC50: CAS# 126-33-0: Draize test, rabbit, eye: 253 mg Mild; Oral, mouse:
LD50 = 1900 mg/kg; Oral, rat: LD50 = 1540 uL/kg; Skin, rabbit: LD50 =3180 uL/kg; Skin, rat: LD50 = >3800 mg/kg.
Carcinogenicity: Sulfolane - Not listed by ACGIH, IARC, or NTP.
Other: See actual entry in RTECS for complete information.

Part 12 Ecological information
Ecotoxicity: Chemical is stable and does not have any hydrolyzable functional groups.

Part 13 Disposal Considerations
Characteristics of abandoned material: No Data
Abandoned material treatment method: Products which are considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local waste regulator for advice. Empty containers must be decontaminated before returning for recycling.

Part 14 Transportation Information
US DOT Not regulated as a hazardous material.
IATA Not regulated as a hazardous material.
IMO Not regulated as a hazardous material.
RID/ADR Not regulated as a hazardous material.
Additional Information: This material is regulated when shipped by AIR.

Part 15 Regulatory Information
European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: XN
Risk Phrases: R 22 Harmful if swallowed.
Safety Phrases: S 25 Avoid contact with eyes.
WGK (Water Danger/Protection)
LISTINGS E.G. CHEMICAL INVENTORIES
Type : EINECS
Additional information :
Type : TSCA
Additional information : EPA TSCA Test submission (TSCATS) database, December 1999
Type : DSL
Additional information : Canadian Inventory
Type : AICS
Additional information: Australian Inventory
Type: ECL
Additional information: Korean Inventory of Chemicals
Type: ENCS
Additional information: Japanese Inventory
Type: CHINA
Additional information: Inventory of Existing Chemical Substances in China
Type: PICCS
Additional information: Philippine Inventory
Type: other: DENMARK
Additional information: The Danish Product Register
Type: other: SWEDEN
Additional information: The Swedish Product Register

Part 16 Other Information
NFPA RATINGS: Health: 2 Flammability: 1 Reactivity: 0 Special: NA
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA).

This MSDS is made according to Chinese Safe Technical instruction book of Chemicals No.2034
This MSDS is made according to The Safety Regulations of Chemical Hazardous Material(by The State Council of the People's Republic of China /Feb.17,1987)
This MSDS is made according to The Execution of The Safety Regulations of Chemical Hazardous Material(by Chemical Labor Bureau of the People's Republic of China No.677/1992
This MSDS is made according to The Regulations of Safe Using Chemicals at workplace(by Labor Bureau of the People's Republic of China No.423/1996) and so on
Some information is sourced from Relevant Internet

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