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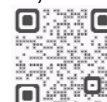
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MATERIAL SAFETY DATA SHEET

Version 2.0

Revision Date: Jan. 05, 2016



Section 1 - Product and Company Information

Product Name: 1,1,2,2-Tetrabromoethane

Product Number: C003421

Company: DSL Chemicals (Shanghai) Co., Ltd

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Shanghai 200001, China

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Section 2 - Composition, Information on Ingredients

Substance Name

CAS #

1,1,2,2-Tetrabromoethane

79-27-6

Formula: C₂H₂Br₄

Molecular Weight: 345.65 g/mol

Section 3 - Hazards Identification

GHS classification

PHYSICAL HAZARDS

Not classified

HEALTH HAZARDS

Acute toxicity (Oral)

Category 4

Acute toxicity (Inhalation)

Category 1

Skin corrosion/irritation

Category 2

Serious eye damage/eye irritation

Category 2A

Specific target organ toxicity

Central nervous system

- Single exposure [Category 2]

Specific target organ toxicity

Respiratory tract irritation

- Single exposure [Category 3]

Specific target organ toxicity

Liver, Lung

- Repeated exposure [Category 1]

Specific target organ toxicity

Thyroid gland

- Repeated exposure [Category 2]

ENVIRONMENTAL HAZARDS

Acute aquatic hazard

Category 3

Long-term aquatic hazard

Category 3

GHS label elements, including precautionary statements

Pictograms or hazard symbols



Signal word	Danger
Hazard statements	Harmful if swallowed Fatal if inhaled Causes skin irritation Causes serious eye irritation May cause damage to organs : Central nervous system Causes damage to organs through prolonged or repeated exposure : Liver Lung May cause damage to organs through prolonged or repeated exposure : Thyroid gland May cause respiratory irritation Harmful to aquatic life Harmful to aquatic life with long lasting effects

Precautionary statements:

[Prevention]

Do not breathe dust/fume/gas/mist/vapours/spray.

Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

Do not eat, drink or smoke when using this product.

Wash hands thoroughly after handling.

Wear respiratory protection.

Wear protective gloves/eye protection/face protection.

[Response]

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Rinse mouth.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Gently wash with plenty of soap and water.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

If exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

[Storage]

Store in a well-ventilated place.

Keep container tightly closed.

Store locked up.

[Disposal]

Dispose of contents/container through a waste management company authorized by the local government.

Section 4 - First Aid Measures

Inhalation:

Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Immediately call a POISON CENTER or doctor/physician.

Skin contact:

Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Call a POISON CENTER or doctor/physician.

Eye contact:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Call a POISON CENTER or doctor/physician.

Ingestion:

Call a POISON CENTER or doctor/physician. Rinse mouth.

Most important symptoms/effects, acute and delayed:

Abdominal pain, Cough, Headache, Sore throat, Redness

Protection of first-aiders:

A rescuer should wear personal protective equipment, such as rubber gloves and airtight goggles.

Section 5 - Fire Fighting Measures

Suitable extinguishing media:

Dry chemical, foam, water spray, carbon dioxide.

Specific hazards arising from the chemical:

Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.

Precautions for firefighters:

Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Remove movable containers if safe to do so.

Special protective equipment for firefighters:

When extinguishing fire, be sure to wear personal protective equipment.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:

Use extra personal protective equipment (self-contained breathing apparatus). Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to noninvolved personnel should be controlled around the leakage area by roping off, etc.

Environmental precautions:

Prevent product from entering drains.

Methods and materials for containment and cleaning up:

Absorb spilled material in a suitable absorbent (e.g. rag, dry sand, earth, saw-dust).

In case of large amount of spillage, contain a spill by bunding. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

Section 7 - Handling and Storage

Precautions for safe handling

Technical measures:

Handling is performed in a well ventilated place. Wear suitable protective equipment.

Prevent generation of vapour or mist. Wash hands and face thoroughly after handling.

Use a closed system if possible. Use a ventilation, local exhaust if vapour or aerosol will be generated.

Advice on safe handling:

Avoid contact with skin, eyes and clothing.

Conditions for safe storage, including any incompatibilities

Storage conditions:

Keep container tightly closed. Store in a cool, dark and well-ventilated place.

Store locked up.

Store away from incompatible materials such as oxidizing agents.

Light-sensitive

Packaging material:

Comply with laws.

Section 8 - Exposure Controls, Personal Protection

Engineering controls:

Install a closed system or local exhaust. Also install safety shower and eye bath.

Exposure limits:

ACGIH TLV (TWA): 0.1 ppm (IFV)

OSHA PEL (TWA): 1 ppm

Personal protective equipment
Respiratory protection:
Half or full facepiece respirator, self-contained breathing apparatus(SCBA), supplied air respirator, etc. Use respirators approved under appropriate government standards and follow local and national regulations.
Hand protection:
Impervious gloves.
Eye protection:
Safety goggles. A face-shield, if the situation requires.
Skin and body protection:
Impervious protective clothing. Protective boots, if the situation requires.

Section 9 - Physical and Chemical Properties

Appearance	
Form	Liquid
Colour:	Colorless or light yellow clear
Odour:	Pungent
pH:	No data available
Melting point/freezing point:	0°C
Boiling point/range:	243°C
Flash point:	No data available
Flammability or explosive limits:	
Lower:	No data available
Upper:	No data available
Vapour pressure:	5.32Pa/24°C
Vapour density:	11.9
Relative density:	2.97
Solubility(ies):	
[Water]	Insoluble (678mg/L, 25°C)
[Other solvents]	
Miscible:	Ether, Chloroform, Ethanol, Acetic acid, Aniline
Soluble:	Benzene, Acetone
Slightly soluble:	Carbon tetrachloride
Log Pow:	280
Autoignition temperature:	335°C

Section 10 - Stability and Reactivity

Chemical stability:
Stable under proper conditions.
Possibility of hazardous reactions:
No special reactivity has been reported.
Incompatible materials:
Oxidizing agents, Strong bases, Metals
Hazardous decomposition products:
Carbon monoxide, Carbon dioxide, Hydrogen bromide

Section 11 - Toxicological Information

Acute Toxicity:
ihl-rat LC50:549 mg/m³/4H
orl-mus LD50:269 mg/kg
orl-rat LD50:1200 mg/kg
skn-rat LD50:5250 mg/kg
Skin corrosion/irritation:
skn-rbt 500 mg/24H MOD

Serious eye damage/irritation:
eye-rbt 100 mg MLD
Germ cell mutagenicity:
dnr-esc 29640 ug/disc
mmo-sat 10 ug/plate (+/-S9)
sce-ham-ovr 158 mg/L
Carcinogenicity:
skn-mus TDLo:130 g/kg/74W-I
IARC = No data available
NTP = No data available
Reproductive toxicity: No data available
RTECS Number: KI8225000

Section 12 - Ecological Information

Ecotoxicity:
Fish: 48h LC50:19 mg/L (*Oryzias latipes*)
Crustacea: No data available
Algae: No data available
Persistence / degradability: 29% (by BOD)
Bioaccumulative potential (BCF):
1.5 - 7.0 (conc. 10 ppb), 2.9 - 8.2 (conc. 1 ppb)
Mobility in soil
Log Pow: 280
Soil adsorption (Koc): 120
Henry's Law constant (PaM³/mol): 1.3

Section 13 - Disposal Considerations

Recycle to process, if possible. Consult your local regional authorities. Observe all federal, state and local regulations when disposing of the substance.

Section 14 - Transport Information

Hazards Class: 6.1: Toxic substance.
UN-No: 2504
Proper shipping name: 1,1,2,2-Tetrabromoethane
Packing group: III
Marine pollutant Y

Section 15 - Regulatory Information

Regulations on the Control over Safety of Dangerous Chemicals (State Council announces on January 26, 2002 and revised on February 16, 2011): Safe use and production, the storage of a dangerous chemical, transport, loading and unloading were prescribed.
This product is included in the list of dangerous chemicals (2015)/Serial No.: 2085

Section 16 - Additional Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.