



# DSL Chemicals (Shanghai) Co., Ltd.

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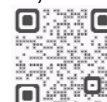
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## MATERIAL SAFETY DATA SHEET

Version 2.0

Revision Date: Jan. 05, 2016



### Section 1 - Product and Company Information

Product Name: 4-Bromobenzaldehyde

Product Number: C000383

Company: DSL Chemicals (Shanghai) Co., Ltd

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### Section 2 - Composition, Information on Ingredients

Substance Name

CAS #

4-Bromobenzaldehyde

1122-91-4

Formula: C<sub>7</sub>H<sub>5</sub>BrO

Molecular Weight: 185.02 g/mol

### Section 3 - Hazards Identification

OSHA Haz Com: CFR 1910.1200:

Acute Toxicity - Oral [Category 4]

Skin Corrosion/Irritation [Category 2]

Eye Damage/Irritation [Category 2A]

Signal word:

Warning!

Hazard Statement(s):

Causes serious eye irritation

Causes skin irritation

Harmful if swallowed



Pictogram(s) or Symbol(s):

Precautionary Statement(s):

[Prevention]

Do not eat, drink or smoke when using this product. Wash hands and face thoroughly after handling. Wear protective gloves. Wear eye and face protection.

[Response]

If swallowed: Immediately call a poison center or doctor. Rinse mouth. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. 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 or attention.

[Storage]

None

[Disposal]

Dispose of contents and container in accordance with US EPA guidelines for the classification and determination of hazardous waste listed in 40 CFR 261.3. (See Section 13)

#### **Section 4 - First Aid Measures**

Inhalation:

Call a poison center or doctor if you feel unwell. Move victim to fresh air. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Keep victim warm and quiet. Treat symptomatically and supportively. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Skin contact:

Call a poison center or doctor if you feel unwell. Remove and wash contaminated clothing before re-use. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Treat symptomatically and supportively. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Eye contact:

IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Contact with material may irritate or burn eyes. Call emergency medical service. Move victim to fresh air. Check for and remove any contact lenses. Keep victim warm and quiet. Treat symptomatically and supportively. Effects of exposure to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Ingestion:

Harmful if swallowed. Do not induce vomiting without medical advice. If swallowed, seek medical advice immediately and show the container or label. Do not use mouth-to-mouth method if victim ingested the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Loosen tight clothing such as a collar, tie, belt or waistband. If a person vomits place them in the recovery position so that vomit will not reenter the mouth and throat. Rinse mouth. Keep victim warm and quiet. Treat symptomatically and supportively. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Symptoms/effects:

Acute: Redness.

Delayed: No data available

Immediate medical attention:

WARNING: It might be hazardous to the person providing aid to give mouth-to-mouth respiration, because the inhaled material is harmful. If breathing has stopped, perform artificial respiration. Use first aid treatment according to the nature of the injury. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

#### **Section 5 - Fire Fighting Measures**

Suitable extinguishing media:

Dry chemical, CO<sub>2</sub>, sand, earth, water spray or regular foam Consult with local fire authorities before attempting large scale fire fighting operations.

Specific hazards arising from the chemical:

Hazardous combustion products:

These products include: Carbon oxides Halogenated compounds

Other specific hazards:

Closed containers may explode from heat of a fire.

Special precautions for fire-fighters:

Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. Containers may explode when heated. Move containers from fire area if you can do it without risk.

Special protective equipment for fire-fighters:

Wear positive pressure self-contained breathing apparatus (SCBA). Structural fire fighters' protective clothing provides limited protection in fire situations ONLY; it may not be effective in spill situations. Wear chemical protective clothing which is specifically recommended by the manufacturer. It may provide little or no thermal protection.

## **Section 6 - Accidental Release Measures**

Personal precautions:

Avoid contact with skin, eyes, and clothing. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (Section 8). Warn unnecessary personnel to move away. Stop leak if you can do it without risk. Ensure adequate ventilation. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Personal protective equipment:

Wear eye protection (splash goggles) and face protection (full length face shield). Lab coat. Dust respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Wear protective gloves (nitrile).

Emergency procedures:

Prevent dust cloud. In case of a spill and/or a leak, always shut off any sources of ignition, ventilate the area, and exercise caution. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Warn personnel to move away. Prevent entry into sewers, basements or confined areas; dike if needed.

Methods and materials for containment and cleaning up:

ELIMINATE all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if without risk. Ventilate the area. Absorb with an inert material and put the spilled material in an appropriate waste disposal container. Use clean non-sparking tools to collect absorbed material.

Environmental precautions:

Keep away from living quarters. Prevent further leakage or spillage if safe to do so. Water runoff can cause environmental damage. Prevent entry into sewers, basements or confined areas; dike if needed.

## **Section 7 - Handling and Storage**

Precautions for safe handling

Avoid inhalation of vapor or mist. Do not ingest. Avoid contact with skin and eyes. Good general ventilation should be sufficient to control airborne levels. Keep container dry. Handle and open container with care. Wear suitable protective clothing, gloves and eye/face protection. When using do not eat, drink, or smoke. Keep away from sources of ignition.

Conditions for safe storage:

Keep only in the original container in a cool well-ventilated place. Keep away from incompatibles. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Avoid prolonged storage periods.

Storage incompatibilities:

Store away from oxidizing agents

## **Section 8 - Exposure Controls, Personal Protection**

Exposure limits:

No data available

Appropriate engineering controls:

Good general ventilation should be sufficient to control airborne levels. Ventilation is normally required when handling or using this product. Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance. Follow safe industrial engineering/laboratory practices when handling any chemical.

Personal protective equipment

Respiratory protection:

Dust respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent.

Hand protection:  
Nitrile gloves.  
Eye protection:  
Safety glasses.  
Skin and body protection:  
Lab coat.

### Section 9 - Physical and Chemical Properties

Physical state (20°C):	Solid
Form:	Crystal
Colour:	White or light yellow
Odour:	No data available
Odor threshold:	No data available
Melting point/freezing point:	57°C (135°F)
Boiling point/range:	125°C (257°F)/3.1kPa
Decomposition temperature:	No data available
Relative density:	No data available
Kinematic Viscosity:	No data available
Partition coefficient: n-octanol/water (log Pow)	No data available
Flash point:	108°C (226°F)
Flammability (solid, gas):	No data available
Solubility (ies):	
Soluble:	Ether, Alcohols
pH:	No data available
Vapor pressure:	
Autoignition temperature:	No data available
Vapor density:	
Upper:	No data available
Dynamic Viscosity:	No data available
Evaporation rate: (Butyl Acetate = 1)	No data available
Autoignition temperature:	No data available
Flammability or explosive limits:	
Lower:	No data available
Upper:	No data available

### Section 10 - Stability and Reactivity

Reactivity:  
Not Available.  
Chemical Stability:  
Stable under recommended storage conditions. (See Section 7)  
Possibility of Hazardous Reactions:  
No hazardous reactivity has been reported.  
Conditions to avoid:  
Avoid excessive heat and light.  
Incompatible materials:  
Alkali, Bases, Oxidizing agents, Reducing agents  
Hazardous Decomposition Products:  
No data available

### Section 11 - Toxicological Information

RTECS Number: CU4810000  
Acute Toxicity:  
orl-mus LD50:1230 mg/kg                      ipr-mus LD50:389 mg/kg

Skin corrosion/irritation:  
No data available  
Serious eye damage/irritation:  
No data available  
Respiratory or skin sensitization:  
No data available  
Germ cell mutagenicity:  
No data available  
Carcinogenicity:  
No data available  
IARC: No data available    NTP: No data available    OSHA: No data available  
Reproductive toxicity:  
No data available  
Routes of Exposure:  
Inhalation, Eye contact, Ingestion, Skin contact.  
Symptoms related to exposure:  
Overexposure may result in serious illness or death. Skin contact may result in inflammation; characterized by itching, scaling, reddening, or occasionally blistering. Skin contact may result in redness, pain or dry skin. Eye contact may result in redness or pain.  
Potential Health Effects:  
Skin and eye contact may result in irritation.  
Target organ(s):  
No data available

#### **Section 12 - Ecological Information**

No data available

#### **Section 13 - Disposal Considerations**

Disposal of product:  
Recycle to process if possible. It is the generator's responsibility to comply with Federal, State and Local rules and regulations. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. This section is intended to provide assistance but does not replace these laws, nor does compliance in accordance with this section ensure regulatory compliance according to the law. US EPA guidelines for Identification and Listing of Hazardous Waste are listed in 40 CFR Parts 261. The product should not be allowed to enter the environment, drains, water ways, or the soil.  
Disposal of container:  
Dispose of as unused product. Do not re-use empty containers.  
Other considerations:  
Observe all federal, state and local regulations when disposing of the substance.

#### **Section 14 - Transport Information**

DOT (US)    Non-hazardous for transportation.  
IATA        Non-hazardous for transportation.  
IMDG        Non-hazardous for transportation.

#### **Section 15 - Regulatory Information**

Toxic Substance Control Act (TSCA 8b.):  
This product is ON the EPA Toxic Substances Control Act (TSCA) inventory.

#### **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.