1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product Name: Isobutylbenzene
Product Code: SC-250179

Recommended use of the chemical and restrictions on use
For research use only. Not intended for diagnostic or therapeutic use.

2. HAZARDS IDENTIFICATION

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification
- Acute toxicity - Dermal: Category 4
- Skin corrosion/irritation: Category 2
- Serious eye damage/eye irritation: Category 2A
- Specific target organ toxicity (single exposure): Category 3
- Flammable liquids

Label elements
- Signal word: Warning
- Hazard statements:
  - Harmful in contact with skin
  - Causes skin irritation
  - Causes serious eye irritation
  - May cause respiratory irritation. May cause drowsiness or dizziness
  - FLAMMABLE LIQUID AND VAPOR

Symbols/Pictograms
- Exclamation mark with flame

Precautionary Statements - Prevention
- Wear protective gloves/protective clothing/eye protection/face protection
- Wash face, hands and any exposed skin thoroughly after handling
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area
- Keep away from heat/sparks/open flames/hot surfaces. — No smoking
- Keep container tightly closed
- Ground/bond container and receiving equipment
- Use only non-sparking tools
- Take precautionary measures against static discharge
- Keep cool
Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
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
Call a POISON CENTER or doctor/physician if you feel unwell
If skin irritation occurs: Get medical advice/attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Hazards not otherwise classified (HNOC) Not applicable

Other Information
NFPA  Health hazards 2
   Flammability 2
   Instability 0
   Physical and chemical properties -
HMIS  Health hazards 2
      Flammability 2
      Physical hazards 0
      Personal protection X

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>weight-%</th>
<th>Oral LD50</th>
<th>dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isobutylbenzene</td>
<td>538-93-2</td>
<td>&gt;98</td>
<td>-</td>
<td>&gt; 2000 mg/kg (Rat)</td>
<td>-</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

First Aid Measures
General advice
Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). If symptoms persist, call a physician.

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin Contact
Wash off immediately with plenty of water. Wash contaminated clothing before reuse. If skin irritation persists, call a physician. Immediate medical attention is not required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation
Remove to fresh air. Call a physician. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Artificial respiration and/or oxygen may be necessary. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.
Ingestion
Do NOT induce vomiting. Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider
Remove all sources of ignition. Use personal protective equipment as required.

**Most important symptoms and effects, both acute and delayed**

**Symptoms**
No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians**
Treat symptomatically.

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**5. FIRE-FIGHTING MEASURES**

**Suitable Extinguishing Media**
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media**
None.

**Specific hazards arising from the chemical**
No information available.

**Hazardous combustion products**
Carbon oxides.

**Explosion data**
No information available.

**Protective equipment and precautions for firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**
Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

**Environmental precautions**
Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

**Methods and material for containment and cleaning up**
Prevent further leakage or spillage if safe to do so. Pick up and transfer to properly labeled containers. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Soak up with inert absorbent material.

---

**7. HANDLING AND STORAGE**

**Precautions for safe handling**
Advice on safe handling
Ensure adequate ventilation, especially in confined areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Use with local exhaust ventilation. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities
Storage Conditions
Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep containers tightly closed in a cool, well-ventilated place. Store at room temperature.

Incompatible materials
None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Exposure Guidelines
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls
Engineering Controls
Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment
Eye/face protection
Tight sealing safety goggles. Face protection shield.

Skin and Body Protection
Wear protective gloves and protective clothing.

Respiratory protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations
When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State
liquid

Appearance
No information available

Odor
sweet

Property
Values
pH
No information available
Melting point/freezing point
-51 °C
Boiling point
170 °C
Flash point
55 °C CC (closed cup)
Density
0.85 g/mL
Evaporation rate
No information available
Upper flammability limits
6%
Lower flammability limit
0.8%
Vapor pressure
4.2
Vapor density
1
Specific gravity
0.85
Water solubility
No information available
Solubility in other solvents
No information available
Partition coefficient
4.68
Autoignition temperature  427.8 °C
Decomposition temperature  No information available
Kinematic viscosity  No information available
Explosive properties  No information available
Oxidizing properties  No information available

10. STABILITY AND REACTIVITY

Reactivity  Not applicable
Chemical stability  Stable under recommended storage conditions.
Possibility of Hazardous Reactions  None under normal processing.
Hazardous polymerization  No information available.
Conditions to avoid  Heat, flames and sparks.
Incompatible materials  Strong oxidizing agents.
Hazardous Decomposition Products  Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Inhalation  No data available.
Eye contact  No data available.
Skin Contact  No data available.
Ingestion  No data available.

Information on toxicological effects
Symptoms  No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure
Chronic Toxicity  Avoid repeated exposure.

Numerical measures of toxicity - Product Information
Unknown acute toxicity  No information available
The following values are calculated based on chapter 3.1 of the GHS document
ATEmix (dermal)  2000  mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity  May cause long lasting harmful effects to aquatic life

100% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Persistence and degradability  No information available.
Bioaccumulation  No information available.
Mobility  No information available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition coefficient</th>
</tr>
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<tbody>
<tr>
<td>Isobutylbenzene</td>
<td>538-93-2</td>
</tr>
<tr>
<td></td>
<td>4.68</td>
</tr>
</tbody>
</table>

13. DISPOSAL CONSIDERATIONS
Disposal of wastes
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging
Do not reuse container.

Other Information
Waste codes should be assigned by the user based on the application for which the product was used.

14. TRANSPORT INFORMATION

DOT
UN/ID no                  UN3295
Hazard Class              3
Packing Group             III
Proper shipping name      Hydrocarbons, liquid, n.o.s.
Description              UN3295, Hydrocarbons, liquid, n.o.s., 3, III
Marine pollutant          This product contains a chemical which is listed as a marine pollutant according to DOT
Emergency Response Guide Number 128

IMDG
UN/ID no                  UN3295
Hazard Class              3
Packing Group             III
Proper shipping name      Hydrocarbons, liquid, n.o.s.
Description              UN3295, Hydrocarbons, liquid, n.o.s., 3, III, (55°C c.c.)
Special Provisions        144, B1, IB3, T4, TP1, TP29
EmS-No                    F-E, S-D

IATA
UN/ID no                  UN3295
Hazard Class              3
Packing Group             III
Proper shipping name      Hydrocarbons, liquid, n.o.s.
Description              UN3295, Hydrocarbons, liquid, n.o.s., 3, III

15. REGULATORY INFORMATION

International Inventories
All of the components in the product are on the following Inventory lists
TSCA (United States): Canada (DSL/NDSL) Europe (EINECS/ELINCS/NLP) Australia (AICS) China (IECSC) ENCS (Japan): Philippines (PICCS)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
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<th>AICS</th>
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<tr>
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<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>-</td>
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<td>X</td>
</tr>
</tbody>
</table>

X - Listed
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

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

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes</th>
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<tbody>
<tr>
<td>Acute health hazard</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Fire hazard</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Reactive hazard</td>
<td>No</td>
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</table>

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).

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
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<tr>
<td>Isobutylbenzene</td>
<td>X</td>
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</tbody>
</table>

16. OTHER INFORMATION

Revision note
No information available

Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet