SAFETY DATA SHEET

Issue Date 28-May-2009 **Revision Date** 31-August-2020 **Version** 3

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier
Product Name Benzyldimethylamine

Other Means of Identification
SDS # LC-055

Recommended Use of the Chemical and Restrictions on Use
Recommended Use Catalyst

Details of the Supplier of the Safety Data Sheet
Supplier Address
Lindau Chemicals, Inc.
731 Rosewood Drive
Columbia, SC 29201

Emergency Telephone Number
Company Phone Number Phone: 1-803-799-6863
Fax: 1-803-256-3639
Emergency Telephone INFOTRAC 01-352-323-3500 (International)
1-800-457-4280 (North America)

2. HAZARDS IDENTIFICATION

OSHA/HCS Status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification

Acute Toxicity: Skin	Category 4
Acute Toxicity: Oral	Category 4
Acute Toxicity: Inhalation	Category 4
Aquatic Hazard (Long-term)	Category 3
Flammable Liquids	Category 3
Skin Corrosion/Irritation	Category 1B

Signal Word
Danger

Hazard Statements
H312: Harmful in contact with skin
H302: Harmful if swallowed
H332: Harmful if inhaled
H412: Harmful to aquatic life with long lasting effects
H226: Flammable liquid and vapor
H314: Causes severe skin burns and eye damage

Appearance Colorless liquid **Physical State** Liquid **Odor** Characteristic

Precautionary Statements - Prevention
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233: Keep container tightly closed.
P240: Ground and bond container and receiving equipment.
P241: Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
P242: Use non-sparking tools.
P243: Take action to prevent static discharge.
P260: Do not breathe fumes or vapor.
P264: Wash hands, face and any exposed skin thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P280: Wear protective gloves, protective clothing and eye protection.

Precautionary Statements - Response
P370 + P378: In case of fire: Use dry chemical, CO_2 or foam to extinguish.

P305 + P351: IF IN EYES: Rinse cautiously with water for several minutes.
P338: Remove contact lenses, if present and easy to do. Continue rinsing.

P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P352: Wash with plenty of soap and water.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P363: Wash contaminated clothing before reuse.

P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310: Immediately call a POISON CENTER or doctor/physician.

P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary Statements - Storage
P403 + P235: Store in a well-ventilated place. Keep cool.
P405: Store locked up.

Precautionary Statements - Disposal
P501: Dispose of contents and container in accordance with all local, regional, national and international regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms BDMA; N,N-dimethylbenzylamine; N,N-dimethylbenzenemethanamie
Formula $C_9H_{13}N$

Chemical Name	CAS No	Weight-%
Benzyldimethylamine	103-83-3	>99

** If Chemical Name/CAS No is “proprietary” and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.**

4. FIRST AID MEASURES

First Aid Measures

Inhalation Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Eye Contact Immediately flush eyes with large amounts of running water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Check for and remove any contact lenses. If burning or irritation occurs or persists, consult a physician.

Ingestion Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink (8–10 ounces). Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person.

Skin Contact Get medical attention immediately. Chemical burns must be treated promptly by a physician. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Wash affected area with plenty of soap and water. Continue to rinse for at least 10 minutes. Wash clothing before reuse. Clean shoes thoroughly before reuse or discard them.

Most Important Symptoms and Effects, both Acute and Delayed

Potential Acute Health Effects

Inhalation Harmful if inhaled. May give off gas or vapor that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Eye Contact Causes eye damage and irritation, including tearing, redness and pain.

Ingestion Harmful if swallowed. May cause burns to mouth, throat and stomach.

Skin Contact May cause severe burns.

Indication of Any Immediate Medical Attention and Special Treatment Needed (if Necessary)

Note to Physician Symptomatic and supportive therapy as needed. Following severe exposure, continue medical monitoring for at least 48 hours.

Protection of First-aiders No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Mouth-to-mouth resuscitation should be avoided. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See Toxicological Information (Section 11)

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Media Use dry chemical, CO_2 or alcohol-resistant foam.

Unsuitable Media Do not use water jet.

Specific Hazards Arising from the Chemical

Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may explode. Runoff to sewer may create fire or explosion hazard. Ignitable mixtures may form in the air at temperatures at or above the flashpoint. If vapors encounter a source of ignition, flash back can occur. This material is harmful to aquatic life with long-lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products Carbon dioxide, carbon monoxide, nitrogen oxides, nitric acid, ammonia

Special Protective Actions for Fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special Protective Equipment for Fire-fighters

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

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

For Non-emergency Personnel No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or fumes. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Wear appropriate personal protective equipment.

For Emergency Responders If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information above “For Non-emergency Personnel.”

Environmental Precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and Materials for Containment and Cleaning Up

Methods for Containment Stop leak if without risk. Isolate the hazard area and provide ventilation. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas.

Methods for Cleaning Up Wash or pump spillages into an effluent treatment plant or proceed as follows: Contain and collect spillage with non-combustible, absorbent material, e.g., sand, earth, vermiculite or diatomaceous earth, and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Advice on Safe Handling Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container and tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material-handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

General Occupational Hygiene Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for Safe Storage

Store in accordance with local regulations. Store in segregated and approved areas. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Engineering Controls Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to limit worker exposure to airborne contaminants. Use explosion-proof ventilation, lighting, electrical and material-handling equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Individual Protection Measures

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Wash hands, arms and face thoroughly after handling this product, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reuse.

Eye/Face Protection Safety glasses with side shields, chemical splash goggles or face shield.

Skin and Body Protection Chemical-resistant, impervious gloves should be worn at all times. Check during use that the gloves still retain their protective properties, as the time to breakthrough for any glove material may be different for different glove manufacturers. Wear impervious clothing, boots and apron to avoid skin exposure. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Respiratory Protection Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard, if a risk assessment indicates this is necessary. Ensure adequate ventilation. Apply local exhaust ventilation if necessary.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	Liquid		
Appearance	Colorless liquid	**Odor**	Characteristic
Color	Colorless	**Odor Threshold**	Not available.

Property	Values	Remarks/Method
pH	10	10 g/L @ 20 °C (68 °F)
Melting Point/Freezing Point	-75 °C (-103 °F)	
Boiling Point/Condensation point	180 °C (356 °F)	
Flash Point	53.6 to 54.4 °C (128.5 to 129.9 °F)	Closed cup
Evaporation Rate	Not available	
Flammability (Solid, Gas)	Not available	
Upper Flammability Limit	6.3%	
Lower Flammability Limit	0.9%	
Vapor Pressure	0.8 kPa (6 mm Hg)	25 °C (77 °F)
Vapor Density	Heavier than air	
Relative Density	0.9	(water = 1) 25 °C (77 °F)
Water Solubility	Slightly Soluble	
Water Solubility Result	1.2 g / 100 ml	25 °C (77 °F)
Partition Coefficient (n-Octanol/Water)	log P_{ow} = 1.98	
Auto-Ignition Temperature	250 °C (482 °F)	
Decomposition Temperature	Not available	
Explosive Properties	Not explosive	
Oxidizing Properties	None	
Dynamic Viscosity	3.43 cP	25 °C (77 °F)

10. STABILITY AND REACTIVITY

Reactivity
No specific test data related to reactivity are available.

Chemical Stability
The product is stable under recommended storage conditions.

Possibility of Hazardous Reactions
Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to Avoid
Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Avoid excessively high temperatures. Avoid exposure to direct sunlight.

Incompatible Materials
Oxidizing agents. Strong acids. Acid chlorides.

Hazardous Decomposition Products
Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition products may include carbon dioxide, carbon monoxide, nitrogen oxides, nitric acid and ammonia.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation Inhalation of vapors may be irritating or corrosive to the respiratory system.

Eye Contact Causes eye damage and irritation, including tearing, redness and pain.

Ingestion Harmful if swallowed. May cause burns to mouth, throat and stomach.

Skin Contact May cause severe burns.

Information on Acute Toxicological Effects

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Benzyldimethylamine 103-83-3	579 mg/kg (Rat)	1477 mg/kg (Rabbit)	2.052 mg/L (Rat)

Information on Physical, Chemical and Toxicological Effect

Symptoms Please see above and Section 4 of this SDS for symptoms.

Delayed and Immediate Effects and also Chronic Effects from Short-term and Long-term Exposure

Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC, ACGIH or NTP.

STOT – Single Exposure Not determined.

12. ECOLOGICAL INFORMATION

Toxicity

This product is harmful to aquatic life with long-lasting effects.

Chemical Name	Fish LC50	Crustacea EC50 (NOEC)
Benzyldimethylamine 103-83-3	Pimephales promelas 37.8 mg/L 96 h	Daphnia magna > 100 mg/L 48 h (0.8–8.1 mg/L 21 d)

Persistence and Degradability

This product is considered to be not readily biodegradable.

Bioaccumulation

This product is not bioaccumulating.

Chemical Name	Partition Coefficient (log P_{ow})	Bioconcentration Factor (BCF)
Benzyldimethylamine 103-83-3	1.98	2.1–6.4

Mobility

This product is slightly soluble in water.

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local, regional, national and international laws and regulations. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Contaminated Packaging Waste packaging should be emptied, thoroughly cleaned and recycled. Incineration or landfill should only be considered when recycling is not feasible. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally.

14. TRANSPORT INFORMATION

Shipping Name by Regulatory Entity

DOT Benzyldimethylamine

IMDG Benzyldimethylamine

IATA Benzyldimethylamine

Regulatory Information	UN Number	Classes	Packing Group	Label
DOT Classification	UN-2619	8 (3)	II	
IMDG Classification	UN-2619	8 (3)	II	
IATA Classification	UN-2619	8 (3)	II	

Note
Please see current shipping paper for most up-to-date shipping information, including exemptions and special circumstances.

15. REGULATORY INFORMATION

International Inventories

Listed TSCA, DSL/NDSL, EINECS/ELINCS, ENCS, IECSC, KECI, PICCS, TCSI, AICS, NZIoC

Legend:

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*
KECI *- Korea Existing Chemicals Inventory*
PICCS *- Philippines Inventory of Chemicals and Chemical Substances*
TCSI *- Taiwan Chemical Substance Inventory*
AICS *- Australian Inventory of Chemical Substances*
NZIoC *- New Zealand Inventory of Chemicals*

United States Federal Regulations

CERCLA This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) of the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 302 No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

EPCRA This product does not contain any chemicals with known CAS numbers that are subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-know Act of 1986 (40 CFR 372).

SARA 311/312 Acute health hazard; fire hazard

United States State Regulations

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

United States State Right-to-Know Regulations

Chemical Name	CAS No	New Jersey
Benzyldimethylamine	103-83-3	X

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	3	2	1	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical Hazards**	**Personal Protection**
	3	2	1	Not determined

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Disclaimer

The information provided in this 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 guide 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