

MATERIAL SAFETY DATA SHEET

1. Identification

Product Name: Denatonium Benzoate
CAS#: 3734-33-6
Identified uses: Laboratory chemical, Intermediate for Industrial Use
Emergency telephone + 91-7296866111

Contact Information:
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2. Hazard(s) identification

Potential Acute Health Effects:

Can be hazardous in case of ingestion. Non-hazardous in case of skin contact, of eye contact (irritant), of inhalation. Non-corrosive for skin. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:

Can be hazardous in case of ingestion. Non-hazardous in case of skin contact, of eye contact (irritant), of inhalation.

CARCINOGENIC EFFECTS: Classified A5 (Not suspected for human.) by ACGIH.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to kidneys, the nervous system. Repeated or prolonged exposure to the substance can produce target organs damage.

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Denatonium Benzoate	3734-33-6	<=100

4. First-aid measures

General Advice	If symptoms persist, call a physician.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.
Most important symptoms and effects	None reasonably foreseeable.
Notes to Physician	Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media - Carbon dioxide (CO₂). Powder. Water spray. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Unsuitable Extinguishing Media - No information available

Flash Point - No information available

Method - No information available

Autoignition Temperature Explosion Limits - No information available

Upper - No data available

Lower - No data available

Sensitivity to Mechanical Impact - No information available

Sensitivity to Static Discharge - No information available

Specific Hazards Arising from the Chemical - Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products - None known.

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.

NFPA

Health

2

Flammability

0

Instability

0

Physical hazards

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6. Accidental release measures

Personal Precautions - Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

Environmental Precautions - Should not be released into the environment.

(See Section 12 for additional Ecological Information.)

Methods for Containment and Clean Up - Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling - Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

Storage - Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls / personal protection

Exposure Guidelines - This product does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

Engineering Measures - Ensure that eyewash stations and safety showers are close to the workstation location

Personal Protective Equipment -

Eye/face 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 and body protection - Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection - 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 respirators if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures - Handle in accordance with good industrial hygiene and safety practice

9. Physical and chemical properties

Physical State - Solid

Appearance - No information available

Odor - No information available

Odor Threshold - No information available
 pH - No information available
 Melting Point/Range 164 - 169 °C / 327.2 - 336.2 °F
 Boiling Point/Range - No information available
 Flash Point - No information available
 Evaporation Rate - Not applicable
 Flammability (solid, gas) - No information available
 Flammability or explosive limits:
 Upper - No data available
 Lower - No data available
 Vapor Pressure - No information available
 Vapor Density - Not applicable
 Specific Gravity - No information available
 Solubility - No information available
 Partition coefficient; n-octanol/water - No data available
 Autoignition Temperature - No information available
 Decomposition Temperature - No information available
 Viscosity - Not applicable
 Molecular Formula - C₂₁ H₂₉ N₂ O₇ H₅ O₂
 Molecular Weight - 446.59

10. Stability and reactivity

Reactive Hazard - None known, based on information available
 Stability - Stable under normal conditions.
 Conditions to Avoid - Incompatible products (Incompatible Materials Oxidizing agent)
 Hazardous Decomposition Products - None under normal use conditions
 Hazardous Polymerization - Hazardous polymerization does not occur.

11. Toxicological information

Acute Toxicity - LD50 oral, Rat, 584 mg/kg

Product Information:
 Component Information -

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Denatonium benzoate	LD50 = 584 mg/kg (Rat)	Not listed	Not listed

Toxicologically Synergistic Products - No information available
 Delayed and immediate effects as well as chronic effects from short and long-term exposure.
 Irritation - No information available
 Sensitization - No information available
 Carcinogenicity - The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Denatonium benzoate	3734-33-6	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects - No information available
 Reproductive Effects - No information available.
 Developmental Effects - No information available.
 Teratogenicity - No information available.
 STOT - single exposure Respiratory system
 STOT - repeated exposure None known
 Aspiration hazard - No information available
 Symptoms / effects, both acute and delayed - No information available
 Endocrine Disruptor Information - No information available

Other Adverse Effects - The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity, Persistence and Degradability - No information available
 Bioaccumulation/ Accumulation - No information available.
 Mobility - No information available.

13. Disposal considerations

Waste Disposal Methods - Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT: Not regulated
 TDG: Not regulated
 IATA: Not regulated
 IMDG/IMO: Not regulated

15. Regulatory information

United States of America Inventory

Component	CAS-No	TSCA	TSCA Inventory notification - Active/Inactive	TSCA - EPA Regulatory Flags
Denatonium benzoate	3734-33-6	X	ACTIVE	---

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL)

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	AICS	IECSC	KECL
Denatonium benzoate	3734-33-6	X	-	223-095-2	X	X	X	X	KE-11775

U.S. Federal Regulations

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

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

U.S. State Right-to-Know Regulations Not applicable

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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 event shall www.macsenlab.com 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 www.macsenlab.com has been advised of the possibility of such damages.