



Denatonium Benzoate

Material Safety Data Sheet

Date Prepared: January 26, 2006

Date Revised: N/A

1. Identification of the Substance and the Company

Substance:	Denatonium Benzoate	
CAS#:	3734-33-6	
Supplier:	Aversion Technologies, Inc. 12220 Maycheck Lane Bowie, Maryland 20715 USA	CHEMTREC 24hr Emergency: 1-800-424-9300
Telephone:	+1-202-657-6300	International: 1-703-527-3887
Emergency No:	+1-202-365-9001	
Web Address:	www.aversiontech.com	

2. Composition:

Substance:	Ammonium, Benzyl diethyl ((2,6,Xylylcarbamoyl) methyl)- Benzoate (Denatonium Benzoate)
% content:	>99.5%
CAS No:	3734-33-6
Classification:	Xn Harmful
EINECS:	223-095-2

3. Hazard Identification

Harmful if ingested in large amount

4. First Aid Measures

General:	Remove victim immediately from source of exposure. Provide rest, warmth and fresh air. Get medical attention if any discomfort continues.
Inhalation:	NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Provide rest, warmth and fresh air. Rinse mouth thoroughly. Drink plenty of water. Get medical attention if any discomfort continues.
Eye:	Flush immediately with plenty of gently flowing clean water/saline, occasionally lifting eye lids until no evidence of chemical remains. Obtain medical attention immediately.
Skin:	Remove contaminated clothing. Wash affected areas with plenty of soap and water preferably under a shower, at least 15 - 20

minutes until no chemical remains. Obtain medical attention if skin is irritated or any symptoms develop.

5. Fire Fighting Measures

EXTINGUISHING MEDIA:	Use foam, water spray, fog or mist. Carbon dioxide (CO2) dry chemicals. DO NOT USE full water jet.
SPECIAL FIRE FIGHTING PROCEDURES:	Use pressurized air mask if substance is involved in a fire. Avoid breathing fire vapors. Fireproof overalls/suit, booths and gloves should be worn.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	This product does not pose a particular hazard.
HAZARDOUS COMBUSTION PRODUCTS:	Fire creates Nitrogen Oxides

6. Accidental Release Measures

PERSONAL PRECAUTIONS IN SPILL:	Wear disposable gloves and overalls. Boots, Air Hood/Respirator is required.
PRECAUTIONS TO PROTECT ENVIRONMENT:	None
SPILL CLEANUP METHODS:	Granules should be dealt with in such a way as to prevent particles being spread in the air causing an unpleasant taste.

7. Handling and Storage

USAGE PRECAUTIONS:	While handling manually avoid contact with skin, eyes and clothing. Handle using techniques to minimize dust.
STORAGE PRECAUTIONS:	Keep dry, ventilated storage and closed containers. Keep separate from food, feed-stuffs, fertilizers, and other sensitive materials.
STORAGE CRITERIA:	Keep in cool dry place.

8. Exposure Controls

INGREDIENT NAME:	Denatonium Benzoate
CAS NO:	3734-33-6
STD:	OES
LT EXP:	No std
ST EXP 15 Min:	No std
INGREDIENT COMMENTS:	OES = Occupational Exposure Standard. MEL = Maximum Exposure Limit

VENTILATION:	If small quantities an airhood or suitable dust mask should be worn. If dust concentrations are high, an airhood or airsuit are recommended.
PROTECTIVE GLOVES:	Use rubber or plastic gloves and sleeving.
EYE PROTECTION:	Wear safety glasses with side shields. Add respiratory protection if concentrations are high.
SKIN PROTECTION:	Disposable overalls if concentrations are high.
HYGIENIC WORK PRACTICES:	Wash at the end of each work shift and before eating, smoking, and using the toilet. Wash promptly with soap and water if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. No eating or drinking while working with this material.

9. Physical and chemical properties

APPEARANCE: Crystalline powder	
COLOR: White granules	
ODOR/TASTE: Odorless, bitter taste	
BOILING POINT (°C, Interval): N/A	Pressure: N/A
DENSITY/SPECIFIC GRAVITY (g/ml): N/A	Temperature (°C): N/A
VAPOR PRESSURE: N/A	Temperature (°C): N/A
SOLUBILITY DESCRIPTION: 1:20 @ 20 °C	
FLASH POINT (°C): N/A	Method: CC (Closed cup)
AUTO IGNITION TEMPERATURE (°C): N/A	
FLAMMABILITY LIMIT – LOWER (%): N/A	
FLAMMABILITY LIMIT – UPPER (%): N/A	

10. Stability and reactivity

STABILITY:	Product stable up to 140°C
CONDITIONS TO AVOID:	None known
MATERIALS TO AVOID:	Certain strong oxidizing agents such as Sodium Hypochlorite and Hydrogen Peroxide
HAZARDOUS DECOMP PRODUCTS:	Nitrogen oxides are formed when Aversion decomposes on heating or when involved in fire

11. Toxicology information

Toxicity Data:

Oral LD50 (Female Rat) 584 mg/kg
Oral LD50 (Male Rat) 640 mg/kg
Oral LD50 (Rat) >2000 mg/kg

INHALATION: Only one known case of toxic effect in man from Denatonium Benzoate causing Asthmatic persons who are allergic to Lignocaine or some similar anaesthetics may also react to Aversion and should therefore avoid contact with the material.

INGESTION: Bitterest substance know to man. No information on adverse effects.

SKIN: Low skin sensitivity potential and therefore may be mildly irritating to skin.

EYES: No information available

12. Ecological Information

Aversion does not bio-accumulate
LC50 Rainbow Trout: >1000 mg/l 96 hrs in fresh water
LC50 Shrimp : 400 mg/l 96 hrs in salt water

13. Disposal Considerations

DISPOSAL METHODS: Dispose of in accordance with local authority requirements. This material should be incinerated in a licensed facility.

14. Transport information

GENERAL: Supplied in limited quantity packages

UN No: 2811

EEC Regulations:
EINECS Number 2230952
CAS No. 34421
TARIFF No: 29243000

IATA/ICAO: This material is not classified as dangerous

15. Regulatory Information

LABEL FOR SUPPLY:



RISK PHRASES:	R20/22 Harmful by inhalation and if swallowed
SAFETY PHRASES:	S36.37 Wear suitable protective clothing and gloves S46 If swallowed seek medical advice immediately
STATUTORY INSTRUMENTS:	Chemicals (Hazard Information and Packaging) Regulations. Control of Substances Hazardous to Health
GUIDANCE NOTES:	Occupational Exposure Limits EH40 Introduction to Local Exhaust Ventilation HS(G)37 CHIP for Everyone HSG (108)

16. Other Information	
INFORMATION SOURCES:	Material Safety Data Sheet, Misc. manufactures
REVISION DATE:	January 1, 2006
DISCLAIMER: Every effort has been made to ensure that this information is accurate and up to date. Users are reminded that they should ensure that they have retained or internally circulated the most up to date copy as provided to the persons or work locations which require them. No warranty is implied or given as to suitability for use for any activity which is not covered by either the technical data sheet or restrictions of use as above.	