

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION AND GENERAL INFORMATION

P/N#:	2041-11K	NFPA Code
Nomenclature:	Bitrex Fit Sensitivity Solution #1	H 2
Company Name:	Allegro Industries	F 1
Address:	7221 Orangetwood Avenue	R 1
	Garden Grove, CA 92841	O 0
	714-899-9855	
	Chemtrac: 800-424-9300	

2. COMPOSITION

Product Name:	Denatonium benzoate		
Chemical Name:	Ammonium, Benzyl-diethyl ((2,6-xylylcarbomoyl)methyl)-, benzoate		
Chemical Family:	N/A		
Synonyms:	N-[2-[2,6-Dimethylphenyl]amino]-2-oxoethyl]-N, N-diethylbenzenemethyl benzoate; Benzenemethanaminium, N-(2-((2,6-dimethylphenyl)amino)-2-oxoethyl)-N-N-diethyl-, benzoate, bittering agent		
Ingredient:	Water	Sodium chloride	Denatonium benzoate
CAS Number:	7732-18-5	7647-14-5	3734-33-6
Percent:	95%	5%	< .02%
Molecular Weight:	446.59 g/mole		
Chemical Formula:	C28H34N2O3		
Notes:	N/A		

3. HAZARDS IDENTIFICATION

Physical Dangers:	It may be absorbed through the skin, but not in significant or harmful amounts.
Chemical Dangers:	N/A
Routes of Exposure:	Inhalation, ingestion.
Target Organs:	N/A
Health Hazards	
Inhalation:	No adverse health effects are expected. Avoid prolonged breathing of mist.
Skin Contact:	No need for first aid is anticipated.
Eye Contact:	No need for first aid is anticipated.
Ingestion:	Profuse bad taste. Taste Antidote: chocolate (Do not digest.)
Chronic Exposure:	Repeated or prolonged exposure is not known to aggravate medical condition.
Acute Exposure:	Hazardous in case of skin contact (irritant), of eye contact (irritant). Slightly hazardous in case of ingestion, of inhalation.
Aggr. of Pre-Ex Cond:	N/A
Carcinogenic Effects:	Not available.
Mutagenic Effects:	Not available.
Teratogenic Effects:	Not available.
Developmental Toxicity:	Not available.

4. FIRST AID MEASURES

Inhalation:	N/A. No adverse health effects are exposed.
Skin Contact:	The affected area should be washed with soap and water.
Eye Contact:	Flush immediately with cold water.
Ingestion:	Administer water or milk to dilute.

5. FIRE FIGHTING MEASURES

Fire Hazards:	May be combustible at high temperatures.
Fire Extinguisher:	Small Fire- Use DRY chemical powder. Large Fire- Use water spray, fog, or foam. Do not use water jet.
Explosion Hazards:	Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Flash Point:	N/A
Volatile (% by volume):	N/A
Exp. Limits (Vol % in air):	N/A
Auto Ignition Temperature:	N/A
Special Fire Fighting Proc:	None suggested.
PPE for Fire Fighters:	None suggested.
Products of Combustion:	These products are carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂ ...).
Fire Hazards in Presence of Various Substances:	Slightly flammable to flammable in presence of heat.
Explosion Hazards in Presence of Various Substances:	Risks of explosion of the product in presence of mechanical impact: Not available. Risk of explosion of the product in presence of static discharge: Not available.
Notes:	None.

6. ACCIDENTAL RELEASE MEASURES

Procedure for Spill/Leak:	Small Spill- Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements. Large Spill: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.
Waste Disposal:	Waste must be disposed of in accordance with Federal, State, and Local Environmental Control Regulations.

MATERIAL SAFETY DATA SHEET

7. HANDLING AND STORAGE

Storage:	Keep container tightly closed. Keep container in a cool, well-ventilated area.
Precautions:	Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.
Shelf Life:	5 yrs.
PPE:	Wear suitable protective clothing.
Notes:	None.

8. EXPOSURE CONTROLS

PPE:	Safety glasses or splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill:	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Inhalation:	None suggested.
Skin:	None suggested.
Eye:	None suggested.
Ingestion:	None suggested.
Ventilation:	None suggested.
Engineering Controls:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Work/Hygienic Practices:	Wash hands after handling this product.
Exposure Limits:	N/A
Notes:	None.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color/Appearance/Odor:	Odorless liquid with a bitter taste.
Boiling Point	N/A
Melting Point	163°C (325.4°F)-170°C
Critical temperature:	N/A
Specific Gravity (H ₂ O=1):	N/A
Refractive Index:	N/A
Relative Density:	N/A
Evaporative Rate :	N/A
Water Content:	95%
Vapor Density(Air=1):	N/A
Vapor Pressure:	N/A
Odor Threshold:	N/A
Water/Oil Dist. Coeff:	The product is more soluble in oil; log (oil/water) =0.9
Ioncity (in Water):	N/A
Solubility in Water:	Partially soluble in water. Solubility in water: 45 g/l

10. STABILITY AND REACTIVITY

Stability:	The product is stable.
Instability Temperature:	N/A
Conditions of Instability:	Excess heat, incompatible materials, dust generation.
Incompatibility with Various Substances:	Reactive with oxidizing agents.
Corrosivity:	Non-corrosive in presence of glass.
Special Remarks on Reactivity:	N/A
Hazardous Decomposition Products:	N/A
Hazardous Polymerization:	Will not occur.
Incompatibilities:	N/A
Conditions to Avoid:	N/A
Materials to Avoid:	N/A

11. TOXICOLOGICAL INFORMATION

Health Effects:	N/A
Oral LD50:	Acute oral toxicity (LD50): 508 mg/kg [Rabbit (Registry of toxic Effects of Chemical Substances)].
Dermal LD50:	Acute dermal toxicity (LD50): >2000 mg/kg [Rabbit].
Human Lethal Dose:	N/A
Other Toxic Effects on Humans:	Hazardous in case of skin contact (irritant). Slightly hazardous in case of ingestion, of inhalation.
Notes:	

12. ECOLOGICAL INFORMATION

Ecotoxicity:	Ecotoxicity in water (LC50): >1000 mg/l 96 hours [Fish/Trout]
BOD5 and COD:	N/A
Products of Biodegradation:	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation:	The products of degradation are less toxic than the product itself.
Special remarks on the Products of Biodegradation:	N/A

MATERIAL SAFETY DATA SHEET

13. DISPOSAL CONSIDERATIONS

Waste must be disposed of in accordance in Federal, State, and Local Environmental Control Regulations.

14. TRANSPORT INFORMATION

Proper Shipping Name: N/A
Hazard Class: N/A
Transport Emergency Card: N/A
Packing Group: N/A
UN Number: N/A
Reportable Quantity: N/A
Notes: N/A

15. REGULATORY INFORMATION

TSCA Registered: TSCA 8(b) inventory: Denatonium benzoate
FDA Approved: N/A
ICSC: N/A

16. OTHER INFORMATION

Other Special Considerations: Aversive agent and denaturant.

DISCLAIMER: THE INFORMATION FURNISHED HEREIN IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST DATA CURRENTLY AVAILABLE TO US. NO WARRANTY, EXPRESSED OR IMPLIED IS MADE AND ALLEGRO INDUSTRIES ASSUMES NO LEGAL RESPONSIBILITY OR LIABILITY RESULTING FROM ITS USE.

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION AND GENERAL INFORMATION

P/N#:	2041-12K	NFPA Code
Nomenclature:	Bitrex Fit Test Solution #2	H 2
Company Name:	Allegro Industries	F 1
Address:	7221 Oranewood Avenue	R 0
	Garden Grove, CA 92841	O 0
	714-899-9855	
	Chemtrac: 800-424-9300	

2. COMPOSITION

Product Name:	Denatonium benzoate		
Chemical Name:	Ammonium, Benzyl-diethyl ((2,6-xylyl-carbamoyl)methyl)-, benzoate		
Chemical Family:	N/A		
Synonyms:	N-[2-[2,6-Dimethylphenyl]amino]-2-oxoethyl]-N, N-diethylbenzenemethyl benzoate; Benzenemethanaminium, N-(2-((2,6-dimethylphenyl)amino)-2-oxoethyl)-N-N-diethyl-, benzoate		
Ingredient:	Water	Sodium chloride	Denatonium benzoate
CAS Number:	7732-18-5	7647-14-5	3734-33-6
Percent:	95%	5%	<2%
Molecular Weight:	446.59 g/mole		
Chemical Formula:	C28H34N2O3		
Notes:	N/A		

3. HAZARDS IDENTIFICATION

Physical Dangers:	It may be absorbed through the skin, but not in significant or harmful amounts.
Chemical Dangers:	N/A
Routes of Exposure:	Inhalation, ingestion.
Target Organs:	N/A
Health Hazards	
Inhalation:	No adverse health effects are expected. Avoid prolonged breathing of mist.
Skin Contact:	No need for first aid is anticipated.
Eye Contact:	No need for first aid is anticipated.
Ingestion:	Profuse bad taste. Taste Antidote: chocolate (Do not digest.)
Chronic Exposure:	Repeated or prolonged exposure is not known to aggravate medical condition.
Acute Exposure:	Hazardous in case of skin contact (irritant), of eye contact (irritant). Slightly hazardous in case of ingestion, of inhalation.
Aggr. of Pre-Ex Cond:	N/A
Carcinogenic Effects:	Not available.
Mutagenic Effects:	Not available.
Teratogenic Effects:	Not available.
Developmental Toxicity:	Not available.

4. FIRST AID MEASURES

Inhalation:	N/A. No adverse health effects are exposed.
Skin Contact:	The affected area should be washed with soap and water.
Eye Contact:	Flush immediately with cold water.
Ingestion:	Administer water or milk to dilute.

5. FIRE FIGHTING MEASURES

Fire Hazards:	May be combustible at high temperatures.
Fire Extinguisher:	Small Fire- Use DRY chemical powder. Large Fire- Use water spray, fog, or foam. Do not use water jet.
Explosion Hazards:	Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Flash Point:	N/A
Volatile (% by volume):	N/A
Exp. Limits (Vol % in air):	N/A
Auto Ignition Temperature:	N/A
Special Fire Fighting Proc:	None suggested.
PPE for Fire Fighters:	None suggested.
Products of Combustion:	These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...).
Fire Hazards in Presence of Various Substances:	Slightly flammable to flammable in presence of heat.
Explosion Hazards in Presence of Various Substances:	Risks of explosion of the product in presence of mechanical impact: Not available. Risk of explosion of the product in presence of static discharge: Not available.
Notes:	None.

6. ACCIDENTAL RELEASE MEASURES

Procedure for Spill/Leak:	Small Spill- Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements. Large Spill: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.
Waste Disposal:	Waste must be disposed of in accordance with Federal, State, and Local Environmental Control Regulations.

MATERIAL SAFETY DATA SHEET

7. HANDLING AND STORAGE

Storage:	Keep container tightly closed. Keep container in a cool, well-ventilated area.
Precautions:	Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.
Shelf Life:	5 yrs.
PPE:	Wear suitable protective clothing.
Notes:	None.

8. EXPOSURE CONTROLS

PPE:	Safety glasses or splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill:	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Inhalation:	None suggested.
Skin:	None suggested.
Eye:	None suggested.
Ingestion:	None suggested.
Ventilation:	None suggested.
Engineering Controls:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Work/Hygienic Practices:	Wash hands after handling this product.
Exposure Limits:	N/A
Notes:	None.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color/Appearance/Odor:	Odorless liquid with a bitter taste.
Boiling Point	N/A
Melting Point	163°C (325.4°F)-170°C
Critical temperature:	N/A
Specific Gravity (H ₂ O=1):	N/A
Refractive Index:	N/A
Relative Density:	N/A
Evaporative Rate :	N/A
Water Content:	95%
Vapor Density(Air=1):	N/A
Vapor Pressure:	N/A
Odor Threshold:	N/A
Water/Oil Dist. Coeff:	The product is more soluble in oil; log (oil/water) =0.9
Ioncity (in Water):	N/A
Solubility in Water:	Partially soluble in water. Solubility in water: 45 g/l

10. STABILITY AND REACTIVITY

Stability:	The product is stable.
Instability Temperature:	N/A
Conditions of Instability:	Excess heat, incompatible materials, dust generation.
Incompatibility with Various Substances:	Reactive with oxidizing agents.
Corrosivity:	Non-corrosive in presence of glass.
Special Remarks on Reactivity:	N/A
Hazardous Decomposition Products:	N/A
Hazardous Polymerization:	Will not occur.
Incompatibilities:	N/A
Conditions to Avoid:	N/A
Materials to Avoid:	N/A

11. TOXICOLOGICAL INFORMATION

Health Effects:	N/A
Oral LD50:	Acute oral toxicity (LD50): 508 mg/kg [Rabbit (Registry of toxic Effects of Chemical Substances)].
Dermal LD50:	Acute dermal toxicity (LD50): >2000 mg/kg [Rabbit].
Human Lethal Dose:	N/A
Other Toxic Effects on Humans:	Hazardous in case of skin contact (irritant). Slightly hazardous in case of ingestion, of inhalation.
Notes:	

12. ECOLOGICAL INFORMATION

Ecotoxicity:	Ecotoxicity in water (LC50): >1000 mg/l 96 hours [Fish(Trout)]
BOD5 and COD:	N/A
Products of Biodegradation:	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation:	The products of degradation are less toxic than the product itself.
Special remarks on the Products of Biodegradation:	N/A

MATERIAL SAFETY DATA SHEET

13. DISPOSAL CONSIDERATIONS

Waste must be disposed of in accordance in Federal, State, and Local Environmental Control Regulations.

14. TRANSPORT INFORMATION

Proper Shipping Name: N/A
Hazard Class: N/A
Transport Emergency Card: N/A
Packing Group: N/A
UN Number: N/A
Reportable Quantity: N/A
Notes: N/A

15. REGULATORY INFORMATION

TSCA Registered: TSCA 8(b) inventory: Denatonium benzoate
FDA Approved: N/A
ICSC: N/A

16. OTHER INFORMATION

Other Special Considerations: Aversive agent and denaturant.

DISCLAIMER: THE INFORMATION FURNISHED HEREIN IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST DATA CURRENTLY AVAILABLE TO US. NO WARRANTY, EXPRESSED OR IMPLIED IS MADE AND ALLEGRO INDUSTRIES ASSUMES NO LEGAL RESPONSIBILITY OR LIABILITY RESULTING FROM ITS USE.