

Repela[®]

Material Safety Data Sheet

Date Prepared: May 1, 2009

Date Revised:

1. Identification of the Substance and the Company		
Substance:	Repela[®]	
Distributor:	Aversion Technologies, Inc. 12220 Maycheck Lane Bowie, Maryland 20715 USA	CHEMTREC 24hr Emergency: 1-800-424-9300
Telephone:	+1-202-657-6300	International:
Emergency No.	+1-202-365-9001	1-703-527-3887
Web Address:	www.aversiontech.com	

2. Composition and Information on Ingredients	
Substances:	Denatonium benzoate ($\leq 40\%$) CAS# 3734-33-6, oleoresin capsaicin ($\leq 10\%$) CAS# 8023-77-6, and microcrystalline wax ($\geq 50\%$) CAS# 8002-74-2
Chemical Family:	carboxylic acids, esters, organic compounds, natural capsaicin
Creation Date:	May 1, 2009
Revision Date:	
Appearance:	Orange or orange-brown pellets
Purity:	99% min.
Melting Point:	85 - 105°C
Acidity (3% solution):	N/A
Chloride Content:	N/A
Loss on Drying	N/A
Stability:	Product is thermally stable up to 300°C

3. Hazard Identification	
HEALTH=0	FIRE=1
REACTIVITY=0	
EMERGENCY OVERVIEW	
Color	Orange or orange-brown
Physical Description	Waxy pellets or granules
Odor	Mild indistinct odor
Major Health Hazards	No significant target effects reported
Physical Hazards	No information is available

POTENTIAL HEALTH EFFECTS	
Inhalation	
Short Term Exposure	No information is available
Long Term Exposure	No information is available
Skin Contact	
Short Term Exposure	No significant target effects reported
Long Term Exposure	No information is available
Eye Contact	
Short Term Exposure	No information is available
Long Term Exposure	No information is available
Ingestion	
Short Term Exposure	No information is available
Long Term Exposure	No information is available
CARCINOGEN STATUS	
OSHA	N
NTP	N
IARC	N

4. First Aid Measures	
Inhalation	Remove from exposure immediately. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention.
Skin	Remove contaminated clothing, jewelry, and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains, at least 15 - 20 minutes. Get medical attention if skin is irritated or any symptoms develop.
Eye	Flush immediately with plenty of gently flowing clean water/saline, occasionally lifting eye lids until no evidence of chemical remains. Get medical attention immediately.
Ingestion	If vomiting occurs, keep head lower than hips to prevent aspiration. Get medical attention, if needed.

5. Fire Fighting Measures	
Fire & Explosion Hazard	Slight Fire Hazard
Extinguishing Media	Regular dry chemical, carbon dioxide, water, regular foam For large fires use regular foam or flood with fine water spray.
Fire Fighting	Move container from fire area if it can be done without risk. Do not scatter spilled material with high pressure water streams. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

6. Accidental Release Measures	
Occupational Release	Collect spilled material with appropriate container for disposal. Keep unnecessary people away. Isolate hazard area and deny entry.

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, feedstuffs, fertilizers, and other sensitive materials.
Storage Criteria	Keep in cool dry place.

8. Exposure Controls and Personal Protection	
Exposure Limits	No occupational exposure limits established
Ventilation	Provide local exhaust ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.
Eye Protection	Wear splash-resistant safety glasses. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Clothing	Wear appropriate chemical resistant clothing.
Gloves	Wear appropriate chemical resistant gloves.
Respirator	Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. <ul style="list-style-type: none"> - Any dust, mist or fume respirator - Any air-purifying respirator with high-efficiency particulate filter. - Any powered, air-purifying respirator with a dust mist, and fume filter. - Any powered, air-purifying respirator with high-efficiency particulate filter. For unknown concentrations or immediately dangerous to life or health – <ul style="list-style-type: none"> - Any supplied-air respirator with full face piece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

- Any self-contained breathing apparatus with a full face piece.

9. Physical and chemical properties

Physical State	Solid
Color	Orange or orange-brown
Physical Form	Waxy pellets or granules
Odor	Odorless
Taste	Bitter, extremely pungent taste
Boiling Point	Not applicable
Melting Point	105°C
Volatility	Not applicable
Evaporation Rate	Not applicable
Melt Flow Index	37gm/10min
Density	0.88-0.92gm/cm ³
Tensile Strength	7-15 MPa
Elongation at Break	70% - 95%
Processing Temperature	120-180°C

10. Stability and reactivity

Reactivity	Stable at normal temperatures and pressures
Conditions to Avoid	Avoid heat, flames, sparks and other sources of ignition
Incompatibilities	None
Hazardous Decomposition	Thermal decomposition products: oxides of carbon
Polymerization	Will not polymerize

11. Toxicology information

Toxicity Data	Denatonium Benzoate: 10,040mg/kg oral-rat LD50; 15,080mg/kg oral-rabbit LD50; 161mg/kg oral-rat LD50
Acute Toxicity Level	Extremely low; ingestion of substantial quantities is difficult due to the extreme bitter and pungent taste.
HEALTH EFFECTS	
Inhalation	No effects reported
Acute Exposure	Nausea and vomiting may occur due to extreme bad taste
Chronic Exposure	No data available
Skin Contact	
Acute Exposure	No significant target results reported
Chronic Exposure	No data available
Eye Contact	

Acute Exposure	No data available
Chronic Exposure	No data available
Ingestion	
Acute Exposure	The lethal dose reported in rats was 10,040mg/kg
Chronic Exposure	No data available

12. Ecological Information
No information Available

13. Disposal Considerations
Disposal Methods Dispose of in accordance with applicable regulations.

14. Transport information
Land Transport ADR/RID No classification assigned Air Transport IATA/ICAO No classification assigned Maritime Transport IMDG No classification assigned

15. Regulatory Information	
US Regulations	
TSCA Inventory Status	N
TSCA 12(b) Export Notification	Not listed
CERCLA Section 103 40CFR302.4	N
SARA Section 302 40CFR355.30	N
SARA Section 304 40CFR355.40	N
SARA Section 313 40CFR372.65	N
SARA Hazard Categories, SARA Sections 311/312 40CFR370.21	ACUTE: N CHRONIC: N FIRE: N REACTIVE: N SUDDEN RELEASE: N
OSHA Process Safety 29CFR1910.119	N
State Regulations California Proposition 65	N

16. Other Information

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.