

Dear Customer:

Thank you for your interest in C Tech Corporation
Attached is a current Material Safety Data Sheet (MSDS) for the following product(s) purchased or requested by your company.

C Tech Ref Rodrepe1 5% MB	Product Name Rodrepe1™@ 5% LDPE MB	MSDS # ROD/9/MB5/2008/PROP
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This MSDS has been prepared in accordance with regulatory standards & provides important health and safety information. We suggest that you review this document prior to handling the product. For the MSDS to be an effective means of hazard communication, it must be made available to all those who handle and are responsible for operations involving this product. Information contained herein should not be used for specification purposes.

We recommend that you consult your occupational health and safety specialist to insure that methods used in the handling, storage and reporting of these products will be adequate and in compliance with applicable laws and regulations.

If additional health and safety information is required, please call the C Tech Corporation Office

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Sincerely,
C Tech Corporation
Product Safety
Attachment

REVISION SEP 2008 (9)



ISO 9001: 2000 REGISTERED



ISO 14001: 1996 REGISTERED

RODREPEL®™ 5% Masterbatch in LDPE / RODREPEL®™ Polyethylene Compound

Material Safety Data Sheet

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION AND USAGE

Substance	PRORIETARY FORMULATION IN IN POLYETHYLENE
Chemical Family	carboxylic acids, esters, organic compounds
Creation Date	Jul 01 2008
Revision Date	Dec 10 2012
Usage	Product is used as an aversive agent to prevent animals from attacking plastic objects
Manufacturers Information	Product RODREPEL®™ 5% MASTER BATCH Manufacturer C-Tech Corporation Address Unit No.162, Plot No.259, Surat Special Economic Zone, Surat. Telephone Numbers +91-22-3290 5409 / +91 22 3290 6293 Fax +91-22-24309295

SECTION 2 - COMPOSITION & INFORMATION ON INGREDIENTS

Appearance	Reddish odorless granules
Purity	99% min
Melting Point	85-105 °C
Acidity (3% Solution)	NA
Chloride Content	NA
Loss on drying	NA
Stability	Product is thermally stable up to 300°C.
By products	No By products
Composition	5% ESSENTIAL OIL PRORIETARY FORMULATION +95% LDPE granules

SECTION 3 - HAZARDS IDENTIFICATION

NFPA Ratings (0-4)	HEALTH=0 FIRE=1 REACTIVITY=0
EC Classification (Calculated)	NA
	NA

EMERGENCY OVERVIEW

Colour	Creamish/White
Physical Description	Crystalline plastic granules
Odour	Odourless
Major Health Hazards	No significant target effects reported.
Physical Hazards	No significant target effects reported.
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	no information is available
short term exposure	no information is available
long term exposure	no information is available
Ingestion	no information is available
short term exposure	no information on significant adverse effects
long term exposure	no information is available

CARCINOGEN STATUS

OSHA	N
NTP	N

SECTION 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 Contact	Remove contaminated clothing, jewellery, and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of substance remains (at least 15-20 minutes). Get medical attention, if needed.
Eye Contact	Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. Get medical attention immediately.
Ingestion	If vomiting occurs, keep head lower than hips to help prevent aspiration. Get medical attention, if needed.

SECTION 5 - FIRE FIGHTING MEASURES

Fire and Explosion Hazards	Slight fire hazard..
Extinguishing Media	regular dry chemical, carbon dioxide, water, regular foam 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.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Occupational Release	Collect spilled material in appropriate container for disposal.. Keep unnecessary people away, isolate hazard area and deny entry.
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SECTION 7 - HANDLING AND STORAGE

Store and handle in accordance with all current regulations and standards.
Store in a tightly closed container. Handle using flame retardant gloves, safety glasses facemask/breathing apparatus.

SECTION 8 - EXPOSURE CONTROLS & 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 goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Clothing	Wear appropriate chemical & thermal resistant clothing.
Gloves	Wear appropriate chemical and thermal 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. Any dust, mist, and fume respirator. Any air-purifying respirator with a high-efficiency particulate filter. Any powered, air-purifying respirator with a dust, mist, and fume filter. Any powered, air-purifying respirator with a high-efficiency particulate filter. For Unknown Concentrations or Immediately Dangerous to Life or Health - 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.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Colour	creamish
Physical Form	Crystalline granules
Odour	Odourless
Taste	Bitter and extreme pungent taste
Boiling Point	Not applicable
Melting Point	105 °C
Volatility	Not applicable
Evaporation Rate	Not applicable
Melt Flow Index	MIN 30 gm/10min
Density	0.88-0.92gm/cm ³
Tensile strength	7-15 MPa
Elongation at break	70-95 %
Processing Temperature	120-180° C

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Stable at normal temperatures and pressure.
Conditions to Avoid	Avoid heat, flames, sparks and other sources of ignition.
Incompatibilities	NA
Hazardous Decomposition	Thermal decomposition products: oxides of carbon & nitrogen.
Polymerization	Will not polymerize.

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicity Data	<ul style="list-style-type: none">Acute oral rat (LD50): >50,000 mg/kgAcute dermal rat (LD50): >25000 mg/kgAcute inhalation mouse(LC50) : >100,000 mg/m3 /4 hrs in air
Acute Toxicity Level	Extremely low Toxic: ingestion. Ingestion of substantial quantities is difficult due to extreme bitter & pungent taste
HEALTH EFFECTS	
INHALATION	No effects reported
Acute Exposure	Nausea and Vomiting may also occur due to extreme bad taste on ingestion
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 10040 mg/kg.
Chronic Exposure	No data available.

SECTION 12 - ECOLOGICAL INFORMATION

Polymeric Granules are insoluble in water & non biodegradable.

SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

SECTION 14 - TRANSPORT INFORMATION

RID/ADR Non hazardous for road transport.
IMDG Non-hazardous for sea transport.
IATA Non-hazardous for air transport.

SECTION 15 - REGULATORY INFORMATION

US Regulations

TSCA Inventory Status	Y(all inputs listed)
TSCA 12(b) Export Notification	N
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
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OSHA Process Safety 29CFR1910.119	N
State Regulations	
California Proposition 65	N

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: Symbol	NA
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R- PHRASES
R36/37/38 Irritating to eyes, respiratory system and skin.

S- PHRASES
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

SECTION 16 – OTHER INFORMATION

PERTINENT PHRASES: S36/37/39
PERTINENT PHRASES: R36/37/38
HANDLE ALWAYS USING GLOVES AND FACE MASK

Confidentiality Notice:

The Information herein is believed to be correct & is given in good faith, but no warranty, expressed or implied is made with respect to the product described or its use. As the use of this product is beyond our control, the user must accept responsibility for its suitability for any particular application. No statement may be construed as permission or recommendation for any use that would infringe on any law, ordinance or patent.