



MATERIAL SAFETY DATA SHEET

This MSDS complies with OSHA's Hazard Communication Standard CFR 1910.1200 and OSHA Form 174.

N/A SIGNIFIES NON-APPLICABLE

IDENTITY AND SUPPLIERS INFORMATION

PRODUCT NAME: KILLEM
GMP PRODUCT NUMBER: LUC103
SUPPLIER'S NAME: GENERAL PRODUCTS & SUPPLY, INC.
SUPPLIER'S ADDRESS: 101 TECHNOLOGY LANE
EXPORT, PA 15632
PROPER SHIPPING NAME:

CHEMICAL FAMILY:
FORMULA: PROPRIETARY
PHONE NUMBER: (724) 327-7200
EMERGENCY NO.: 800-255-3924
DATE PREPARED: 09/03/10

HMIS HAZARDOUS MATERIALS IDENTIFICATION SYSTEM	RATING
HEALTH	2
FLAMMABILITY	1
REACTIVITY	0
MAX PERSONAL PROTECTION	I

SECTION 1 - INGREDIENT IDENTIFICATION AND INFORMATION

CHEMICAL NAME	CARC.	CAS NO.	Wt.%	OSHA PEL TWA	OSHA PEL STEL	OSHA PEL TWA	OSHA PEL STEL
Disodium Ethylene Bisdithiocarbamate		142-59-6	10.00-30.00	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sodium Dimethyldithiocarbamate		128-04-1	10.00-30.00	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ethylene Thiourea		96-45-7	0.10-1.0	Not Applicable	Not Applicable	Not Applicable	Not Applicable

SECTION 2 - HAZARDOUS IDENTIFICATION

CLASSIFICATION:	OSHA: Hazardous classification: Acute Health Hazard; Chronic Health Hazard. WHMIS classification: Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material); Class D2B (Materials Causing Other Toxic Effects, Toxic Material).
EMERGENCY OVERVIEW:	Clear, yellow-green liquid. Sulphur odour. Caution! May cause eye, skin and respiratory tract irritation. May cause gastrointestinal discomfort. May cause sensitization by skin contact. Contains material which may be a teratogen. Contains material that may cause adverse reproductive effects. Contains material which may cause cancer.

SECTION 3 - PHYSICAL/CHEMICAL PROPERTIES

BOILING POINT: Not Available
VAPOR PRESSURE: (Non-Aerosols)(mm Hg and Temp): Not Available
VAPOR DENSITY (Air = 1): Not Available
SOLUBILITY IN WATER: Complete
SPECIFIC GRAVITY (H₂O = 1) Concentrate Only: 1.176
pH: Not Available
EVAPORATION RATE: (Water = 1): Equal to Water
PHYSICAL DESCRIPTION: Liquid with a sulphur odor.

SECTION 4 - FIRE/EXPLOSION HAZARD DATA

FLAMMABILITY: Non Flammable under normal conditions of handling. Closed containers may rupture if exposed to excess heat or flame due to build-up of internal pressure.
AUTO IGNITION TEMP: Not Available
FLASH POINT (of Concentrate Only): Non-Flammable
FLAMMABILITY LIMITS: %UEL: Not Available %LEL: Not Available
EXTINGUISHER MEDIA: Dry chemical, foam, carbon dioxide and water fog.
SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.
UNUSUAL FIRE/EXP. HAZARDS: Hazardous combustion products include carbon oxides, nitrogen oxides, sulphur oxides, sodium oxides, irritating fumes and smoke.

SECTION 5 - REACTIVITY HAZARD DATA

STABILITY: Stable under the recommended storage and handling conditions prescribed.
HAZARDOUS POLYMERIZATION: Will Not Occur
INCOMPATIBILITY: Strong oxidizing agents; mineral acids.
CONDITIONS TO AVOID: Avoid heat and open flame. Keep away from direct sunlight. Ensure adequate ventilation, especially in confined areas.
HAZARDOUS DECOMPOSITION PRODUCTS: None known, refer to hazardous combustion products in Section 4.

SECTION 6 - HEALTH HAZARD DATA AND FIRST AID

ACUTE EFFECTS:	FIRST AID PROCEDURES:
SKIN: May cause moderate to severe irritation.	SKIN: Remove/take off immediately all contaminated clothing. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention. Wash contaminated clothing before re-use.
EYES: May cause moderate to severe irritation.	EYES: Immediately flush eyes with plenty of water for at least 15 minutes. If irritation or symptoms develop, seek medical attention.
INHALATION: May cause irritation to the nose, throat and upper respiratory tract. High concentrations may cause nausea, headache, dizziness and incoordination.	INHALATION: Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention.
INGESTION: Ingestion may irritate digestive tract and cause nausea, vomiting and diarrhea.	INGESTION: Seek immediate medical attention/advice. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
EFFECTS OF LONG-TERM (CHRONIC) EXPOSURE: Prolonged or repeated contact may cause drying, cracking and defatting of the skin.	
CARCINOGENIC STATUS: Possible cancer hazard. See TOXICOLOGICAL INFORMATION, Section 9.	
ADDITIONAL HELATH HAZARDS: Potential teratogen. Potential reproductive toxicant. Possible sensitizer. See TOXICOLOGICAL INFORMATION, Section 9.	

SECTION 7 - CONTROL AND PROTECTIVE MEASURES

RESPIRATORY PROTECTION: If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Confirmation of which type of respirator is most suitable for the intended application should be obtained from respiratory protection suppliers.

PROTECTIVE GLOVES: Impervious gloves must be worn when using this product.

EYE PROTECTION: Chemical splash goggles are recommended. A full face shield may also be necessary.

VENTILATION REQUIREMENTS: Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

HYGIENIC WORK PRACTICES: Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove and washing contaminated clothing before re-use. Do not take contaminated clothing home.

SECTION 8 - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED:	All persons dealing with clean-up should wear the appropriate protective equipment including self-contained Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike the area to prevent spreading breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike the area to prevent spreading. Ventilate area of release. Remove all sources of ignition. Use only non-sparking tools and equipment in the clean-up process. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal. Notify the appropriate authorities as required. Do not use combustible absorbents, such as sawdust.
WASTE DISPOSAL METHODS:	Empty containers retain residue (liquid and/or vapour) and can be dangerous. Do not cut, weld, drill or grind on or near this container. Dispose of in accordance with federal, provincial and local hazardous waste laws.
RCRA:	If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.
PRECAUTIONS IN HANDLING AND STORAGE:	Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not ingest. Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks, and open flames. Use proper bonding and grounding techniques when transferring liquid. Avoid contact with incompatible materials. Wash thoroughly after handling. Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area. Always keep in containers made of the same materials as the supply containers.
OTHER PRECAUTIONS:	KEEP OUT OF REACH OF CHILDREN. Empty containers may contain explosive gas.

SECTION 9 – TOXICOLOGICAL INFORMATION

TARGE ORGANS:	Eyes, skin, respiratory system, digestive system.
ROUTES OF EXPSOURE:	Inhalation: YES Skin Absorption: NO Skin & Eyes: YES Ingestion: YES
TOXICOLOGICAL DATA:	There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

INGREDIENT	LC50(4 hr) Inh, rat	LD50	
		(Oral, rat)	Rabbit, dermal)
Disodium ethylene bisdithiocarbamate	Not Available	395 mg/kg	Not Available
Sodium Dimethyldithiocarbamate	Not Available	1000 mg/kg	>5000 mg/kg
Ethylene thiourea	Not Available	1832 mg/kg	Not Available

CARCINOGENIC STATUS:	Contains the following chemical(s) listed as an Anticipated Carcinogen by NTP: Ethylene thiourea.
REPRODUCTIVE EFFECTS:	Contains material that may cause adverse reproductive effects. This product contains: Sodium dimethyldithiocarbamate; Disodium ethylene bisdithiocarbamate.
TERATOGENICITY:	Contains a chemical or chemicals which may be teratogenic. This product contains: Sodium dimethyldithiocarbamate; Disodium ethylene bisdithiocarbamate.
MUTAGENICITY:	Not expected to be mutagenic in humans.
EPIDEMIOLOGY:	Not Available.
SENSITIZATION TO MATERIAL:	May cause sensitization of susceptible persons by skin contact.
SYNERGISTIC MATERIALS:	Not Available.
IRRITANCY:	May cause eye, skin and respiratory tract irritation.
OTHER IMPORTANT HAZARDS:	None known or reported by the manufacturer.
CONDITIONS AGGRAVATED BY OVEREXPOSURE:	Pre-existing skin, eye and respiratory disorders.

SECTION 10 – ECOLOGICAL INFORMATION

ECOTOXICITY:	No data is available on the product itself.
MOBILITY:	No data is available on the product itself.
PERSISTENCE:	No data is available on the product itself.
BIOACCUMULATION POTENTIAL:	No data is available on the product itself.
OTHER ADVERSE ENVIRONMENTAL EFFECTS:	The ecological characteristics of this product have not been fully investigated. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without any warranty or guarantee of any kind.