Skin Contact: May cause irritation.
First Aid: Prolonged exposure may cause skin irritation, even a burn. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The LD_{50} for skin absorption in rabbits is >2,000 mg/kg. May cause moderate irritation. Treat as any contact dermatitis. If burn is present, treat as any thermal burn.

Eye Contact: Slightly irritating.
First Aid: Irrigation of the eye immediately with water for fifteen minutes is good safety practice. May cause mild irritation. Stain for evidence of corneal injury.

Ingestion: Moderate to low single dose oral toxicity. LD_{50} rat in range of 500 to 2,000 mg/kg. May be harmful if swallowed.
First Aid: If swallowed, DO NOT induce vomiting unless instructed to do so by a doctor. Get medical attention. Contains petroleum distillate. Note to Physician: May cause chemical pneumonitis if aspirated. If lavage is performed, suggest endotracheal and/or esophagoscopic control. Never give anything by mouth to an unconscious person.

Skin Absorption: Repeated skin exposure may result in absorption of harmful amounts.

Systemic & Other Effects: In animals, effects have been reported on the gastrointestinal tract, kidney, liver, and muscular system. Observations in animals include gastrointestinal effects.

Cancer Information: Did not cause cancer in laboratory animals. Various animal cancer tests have shown no reliable positive association between 2,4-D exposure and cancer. Epidemiology studies on herbicide use have been both positive and negative, with the majority being negative.

Teratology: Birth defects are unlikely. Excessive dietary levels of 2,4-D acid in laboratory animals have caused decreased weight and survival in offspring.

NOTE TO PHYSICIAN

Eyes: None
Skin: None
Respiratory: May cause chemical pneumonitis if aspirated. If lavage is performed, suggest endotracheal and/or esophagoscopic control.
Oral: Do not induce vomiting
Systemic: None

FIRE PROTECTION INFORMATION

Flash Point (and Method): 188°F (closed cup)
Auto Ignition Temperature: Not Determined
Flammable Limits: Not Determined
Extinguishing Media: Water fog, foam, carbon dioxide, dry chemical

Fire Fighting Equipment and Hazards: Use positive-pressure breathing apparatus. Noxious fumes created under fire conditions. Contain water from fire fighting to prevent entry to water supplies.

PHYSICAL DATA

Boiling Point: Not Determined
Vapor Pressure: Not Determined
Vapor Density (Air=2): Not Determined
Solubility in Water: Soluble
Specific Gravity: 1.103
% Volatile by Volume: Not Determined
Appearance and Odor: Brown liquid with 2,4-D odor

REACTIVITY DATA

Stability: Product is stable
Incompatibility: Acid, base, oxidizing material
Hazardous Decomposition Products: Noxious fumes under fire conditions. Hydrogen chloride and others.
Hazardous Polymerization: Will Not Occur

HANDLING AND STORAGE

Handling: Keep out of reach of children, unauthorized persons, and animals. Harmful if swallowed or absorbed through skin. May cause allergic skin reaction. Do not get in eyes, on skin, or on clothing. Avoid breathing vapors or spray mist. Users should wash hands before eating, smoking, drinking, or using the toilet.

Storage: Keep container tightly closed when not in use. See product label for handling/storage precautions relative to the end use of this product.

SPILL, LEAK & DISPOSAL INFORMATION

Steps To Be Taken in Case Material is Released or Spilled:
Contain spill and use absorbents to clean up liquid. If contaminated soil is present, place soil in drums for disposal.

Disposal Method: Wastes may be considered hazardous. Dispose of wastes in accordance with federal, state and local regulations. Triple rinse containers prior to disposal.

DOT INFORMATION

For Containers with Less than 100 Pounds of 2,4-D:

Proper Shipping Name: *Compounds, Tree or Weed Killing, Liquid, N.O.I.*

For All Other Containers:

Proper Shipping Name: *RQ, Environmentally Hazardous Substance, Liquid, N.O.S. (Contains 2,4-D Ester), 9, UN3082, PGIII, ERG#31*

Hazard Class: 9
Packing Group: III
Label: Non-Bulk -- Class 9
Bulk -- Class 9 Placard with UN3082

SARA HAZARD NOTIFICATION/REPORTING

Product Description: Mixture; Liquid
Contains 2,4-Dichlorophenoxyacetic Acid, 2-Ethylhexyl Ester (Cas # 1928-43-4)
Physical & Health Hazard Categories, 40CFR Part 370:
Immediate (Acute)
Delayed (Chronic)
Fire
Reportable Quantity: 121 lbs.

ADDITIONAL INFORMATION

Prepared By: Van Diest Supply Co.

Date Prepared: 11-22-91 Date Revised: 8-2007

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC - DAY OR NIGHT 1-800-424-9300

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 PRODUCT IDENTIFIER:
TRADE NAME: **MAD DOG®**
1.2 RECOMMENDED USE: HERBICIDE
1.3 SUPPLIER DETAILS:
LOVELAND PRODUCTS, INC.
P.O. Box 1286 • Greeley, CO 80632-1286
1.4 24 Hour Emergency Phone: 1-800-424-9300 - **Medical Emergencies:** 1-866-944-8565
U.S. Coast Guard National Response Center: 1-800-424-8802

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to 29 CFR 1910.1200

Skin irritation	Category 4	H312
Eye Irritation	Category 2B	H320

2.2 Label elements

Signal word: WARNING
Hazard Statement: H312 – Harmful in contact with skin.
H320 – Causes eye irritation.

Precautionary Statement: (Prevention):
P262 – Do not get in eyes, on skin, or on clothing.
P264 - Wash thoroughly after handling.
P271 – Use only outdoors or in a well-ventilated area.
P273 – Avoid release to the environment.
P280 – Wear protective gloves / eye protection / face protection.
P102 – Keep out of reach of children.

Precautionary Statement: (Response):
P305+P351+P338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P101 – If medical advice is needed, have the product container or label at hand.
P363 – Wash contaminated clothing before reuse.
P391 – Collect spillage.

Precautionary Statement: (Storage):
P402+P234 – Store above 10°F (-12°C) to keep product from crystallizing. Keep only in original container.
P405 – Store locked up.

2.3 Other hazards
None known

KEEP OUT OF REACH OF CHILDREN –
Appearance and odor: Clear, viscous amber liquid with little odor.
Potential Health effects

Routes of exposure	Eye contact.
Eyes	Causes moderate eye irritation.
Skin	Harmful in contact with skin.
Inhalation	No data available.
Ingestion	No data available.
Target organs	Eyes.
Signs and symptoms	Causes moderate eye irritation.
Potential environmental effects	This product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have harmful or damaging effect on the environment.

3. COMPOSITION, INFORMATION ON INGREDIENTS

3.1 Substances

3.2 Mixtures

Classification according to 29 CFR 1910.1200

Chemical Name:	CAS No.	Classification	Concentration [%]
Isopropylamine salt of Glyphosate	38641-94-0	Eye Irrit. 2B; H320	41.00
Other ingredients	n/a	Skin irrit. 4; H312	Balance

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

General Advice: Get medical attention if symptoms occur.

Eye contact: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

4.2 Most Important Symptoms and Effects, Acute and Delayed

Symptoms: Eyes: Causes moderate eye irritation.

4.3 Immediate Medical Attention and Special Treatment

Treatment: Treat symptomatically. Symptoms may be delayed.
FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: **1-866-944-8565**
Take container, label or product name with you when seeking medical attention.

NOTES TO PHYSICIAN: Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

Suitable Extinguishing Media: Dry chemical, carbon dioxide (CO_2), alcohol foam, foam, water spray or fog. Do not use water jet as this will spread the fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Specific Hazards During Firefighting: During a fire, hazardous by-products can be released.

5.3 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Special Protective Equipment for Firefighters: Self-contained breathing apparatus and full protective gear should be worn in fighting large fires involving chemicals. Use water spray to keep fire exposed containers cool. Keep people away. Isolate fire and deny unnecessary entry.

6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions: Avoid inhalation of vapors and spray mist and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing.

6.2 ENVIRONMENTAL PRECAUTIONS

Environmental Precautions: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP

Methods for Clean-Up: Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. After removal flush contaminated area thoroughly with water.
Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to Remove residual contamination.
Never return spills to original containers for re-use.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:

Advice on Safe Handling: Avoid inhalation of mists, vapors / spray and contact with eyes, skin and clothing. Do not breathe mists or vapor. Wear personal protective equipment. Do not use in areas without adequate ventilation. Avoid prolonged exposure. Wash thoroughly after handling. Do not empty into drains. Handle and open container with care. Use care in handling/storage. Wash before eating, drinking and/or smoking.

7.2 CONDITIONS FOR SAFE STORAGE:

Requirements for Storage Areas and Containers: Store above 10°F (-12.2°C) to keep product from crystallizing. Crystals will settle to the bottom of the container. If allowed to crystallize, place in a warm room at 68°F (20°C) for several days to redissolve and roll or shake container or recirculate in mini-bulk or bulk containers to mix well before using. Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 CONTROL PARAMETERS:

OCCUPATIONAL EXPOSURE LIMITS

U.S. Workplace Exposure Level (ACGIH) TLVs

Components	Type	Value
No data available.		

U.S. Workplace Exposure Level (OSHA) PELs

Components	Type	Value
No data available.		

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Specimen
No listings		

8.2 EXPOSURE CONTROLS:

Engineering Measures

Provide adequate general and local exhaust ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors and spray mists. Provide eyewash station and safety shower.

Individual Protection Measures:

Eye / Face Protection: Goggles or shielded safety glasses are recommended.

Skin Protection: Coveralls worn over long-sleeved shirt and long pants. Chemical-resistant gloves. Chemical-resistant footwear plus socks.

Respiratory Protection: In case of inadequate ventilation or risk of inhalation of mists or vapors, use suitable respiratory equipment such as MSHA/NIOSH TC-21C or NIOSH approved respirator with N, R, P or HE filter. Wear respiratory protection during operations where spraying or misting occurs. If respirators are used, a program should be in place to assure compliance with 29 CFR 1910.134, the OSHA Respiratory Protection standard. Wear air supplied respiratory protection if exposure concentrations are unknown.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 APPEARANCE : Clear viscous liquid
ODOR: Little.
ODOR THRESHOLD: No data available.
COLOR: Amber.
pH: 4.7 (1% solution)
MELTING POINT / FREEZING POINT: No data available
BOILING POINT: No data available
FLASH POINT: Does not flash.
FLAMMABILILITY (solid, gas): No data available.
UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: No data available.
VAPOR PRESSURE: No data available
SOLUBILITY: Emulsifies
PARTITION CO-EFFICIENT, n-OCTANOL / WATER: <3.2 @ 25°C (Glyphosate).
AUTO-IGNITION TEMPERATURE: No data available.
DECOMPOSITION TEMPERATURE: No data available
VISCOSITY: (kinematic): No data available
SPECIFIC GRAVITY (Water = 1): 1.17 g/ml
BULK DENSITY: 9.76 lbs./gal / 1.17 kg/L

Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

10. STABILITY AND REACTIVITY

10.1 REACTIVITY
Stable

10.2 CHEMICAL STABILITY
Stable under normal temperature conditions

10.3 POSSIBILITY OF HAZARDOUS REACTIONS
No data available. Will not polymerize.

10.4 CONDITIONS TO AVOID
Use of galvanized or unlined steel.

10.5 INCOMPATIBILE MATERIALS
This product and its spray solutions will react with galvanized or unlined steel to produce hydrogen gas that may form a highly combustible gas mixture, which could flash or explode if ignited. Acids and bases.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS
Will emit toxic fumes as it burns.

11 TOXICOLOGICAL INFORMATION

11.3 LIKELY ROUTES OF EXPOSURE
Eye contact. Skin contact.
LC_{50} (rat): 2.6 mg/L (4 HR)
LD_{50} Oral (rat): > 5,000 mg/kg
LD_{50} Dermal (rat): > 2,000 mg/kg
Acute Toxicity Estimates: No data available
Skin Irritation (rabbit): Harmful if absorbed.
Eye Irritation (rabbit): Causes moderate eye irritation
Specific Target Organ Toxicity: Single exposure: No data available.
Aspiration: No data available
Skin Sensitization (guinea pig): Not a sensitizer
Carcinogenicity: No data available
Germ Cell Mutagenicity: No data available
Interactive Effects: None known

12 ECOLOGICAL INFORMATION

12.3 ECOTOXICITY

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Ecotoxicological Data

	Species	Test Results
Glyphosate acid	Rainbow trout	8.2 mg/L – 96-hour LC_{50}
	Bluegill	14 mg/L – 96-hour LC_{50}
	Fathead minnow	9.4 mg/L – 96-hour LC_{50}
	Channel catfish	16 mg/L – 96-hour LC_{50}
	Chinook salmon	20 mg/L – 96-hour LC_{50}
	Coho salmon	22 mg/L – 96-hour LC_{50}
	Daphnia magna	24 mg/L – 48-hour EC_{50}

Drift or runoff may adversely affect non-target plants.
Do not apply directly to water.
Do not contaminate water when disposing of equipment wash water.
Do not apply when weather conditions favor drift from target area.

12.2 PERSISTENCE AND DEGRADABILITY

Biodegradability: No data available

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

12.4 MOBILITY IN SOIL

No data available.

12.5 OTHER ADVERSE EFFECTS

Assessment: No data available.

13 DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Wastes may be disposed of on site or at an approved waste disposal facility. Triple rinse (or equivalent), adding rinse water to spray tank. Offer container for recycling or dispose of in a sanitary landfill or by other procedures approved by appropriate authorities. Recycling decontaminated containers is the best option of container disposal. The Agricultural Container Recycling Council (ACRC) operates the national recycling program. To contact your state and local ACRC recycler visit the ACRC web page at http://www.acrecycle.org/. Do not contaminate water, food or feed by storage or disposal.

14 TRANSPORT INFORMATION

14.3 LAND TRANSPORT

DOT Shipping Description: NOT REGULATED BY USDOT
U.S. Surface Freight Classification: COMPOUND, TREE OR WEED KILLING, NOI (NMFC 50320, SUB 2: CLASS 60)

15 REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS

NFPA & HMIS Hazard Ratings:

NFPA		HMIS	
2	Health	2	Health
0	Flammability	0	Flammability
0	Instability	0	Reactivity
		B	PPE

0 Least, 1 Slight, 2 Moderate, 3 High, 4 Severe

SARA Hazard Notification/Reporting
SARA Title III Hazard Category:

Immediate	Y	Fire	N	Sudden Release of Pressure	N
Delayed	N	Reactive	N		

Reportable Quantity (RQ) under U.S. CERCLA: Not listed.
SARA, Title III, Section 313: Not listed.
RCRA Waste Code: Not listed.
CA Proposition 65: Not applicable

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION
Harmful if absorbed through skin.
Causes moderate eye irritation.
Avoid contact with eyes, skin, or clothing.

16 OTHER INFORMATION

SDS STATUS: Format revised.
PREPARED BY: Registrations and Regulatory Affairs
REVIEWED BY: Environmental Health and Safety

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EPA REG. NO.: 34704-889

Disclaimer and Limitation of Liability: This data sheet was developed from information on the constituent materials identified herein and does not relate to the use of such materials in combination with any other material or process. No warranty is expressed or implied with respect to the completeness or ongoing accuracy of the information contained in this data sheet, and LOVELAND PRODUCTS, INC. disclaims all liability for reliance on such information. This data sheet is not a guarantee of safety. Users are responsible for ensuring that they have all current information necessary to safely use the product described by this data sheet for their specific purpose.

MATERIAL SAFETY DATA SHEET

DATE PREPARED: 05/11/2001

MSDS No: 7101

ORTHO® Malathion Plus® Insect Spray Concentrate

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ORTHO® Malathion Plus® Insect Spray Concentrate
PRODUCT DESCRIPTION: Insecticide

MANUFACTURER

The ORTHO Group
P.O. Box 1749
Columbus, OH 43216

EPA REG. NO.: 239-739D **PN:** 1992

24 HR. EMERGENCY TELEPHONE NUMBERS

Emergency Phone: 1-800-225-2883

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS#
Malathion	50	121-75-5
INERT INGREDIENTS	~50.0	

``Inert Ingredients" is a term defined by the U.S. Environmental Protection Agency under the Federal Insecticide, Fungicide, and Rodenticide Act (40 CFR 158.153). It refers to any substance, other than an active ingredient, which is intentionally added to a pesticide product. Some inert ingredients may be hazardous chemicals, as defined by the Federal OSHA Hazard Communication Standard (29 CFR 1910.1200). The hazards associated with these inert ingredients have been included in this document.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Light amber liquid

IMMEDIATE CONCERNS: - CAUSES SUBSTANTIAL BUT TEMPORARY EYE DAMAGE
- HARMFUL IF SWALLOWED
- AVOID CONTACT WITH SKIN OR CLOTHING
- AVOID BREATHING VAPORS OR SPRAY MIST
- FLAMMABLE
- KEEP OUT OF REACH OF CHILDREN

POTENTIAL HEALTH EFFECTS

EYES: The undiluted product is moderately irritating to the eyes. Eye contact may include discomfort, tearing, swelling, redness, and blurred vision. See Toxicological Information, section 11.
SKIN: This substance is a moderate skin irritant. Skin irritation may include discomfort, redness, swelling, and possibly blistering. If absorbed through the skin, this substance is considered practically non-toxic to internal organs. See Toxicological Information, section 11.
INGESTION: Depending upon the amount of product swallowed, this substance can produce signs and symptoms of systemic poisoning. In addition the product contains a petroleum solvent that can directly enter the lungs if it is swallowed (this is called aspiration). This can occur during the act of swallowing or when vomiting the substance. Once in the lungs, the petroleum solvent is very difficult to remove and can cause severe injury to the lungs and death. See Toxicological Information, section 11.
INHALATION: Prolonged or repeated inhalation exposure to the product vapor or spray mist may be harmful. See Toxicological Information, section 11.
COMMENTS HEALTH: Depending upon the extent and degree of overexposure to the product, signs and symptoms of cholinesterase inhibition can result following either ingestion, skin contact or inhalation routes of exposure. Signs and symptoms of cholinesterase inhibition can also result from either acute (one time), subchronic (repeated short-term) and chronic (daily life-time) overexposure to the product.

Signs and symptoms of cholinesterase inhibition usually occur within 12 hours following overexposure. These effects may include, but may not be limited to, headache, dizziness, weakness, nausea, vomiting, diarrhea, constriction of the pupil of the eye, blurred or dark vision, excessive salivation or nasal discharge, profuse sweating and abdominal cramps. Incontinence, unconsciousness, convulsions and breathing difficulties are indicative of severe poisoning. In untreated severe poisoning, death is due to respiratory failure or cardiac arrest.

This product also contains a petroleum distillate. Depending upon the degree of overexposure, the systemic toxicity of the product may be of

less concern than the potential clinical complications that can result from aspiration of the petroleum distillate into the lungs if the product is either swallowed or vomited.

4. FIRST AID MEASURES

EYES: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

SKIN: If on skin or clothing, take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

INGESTION: If swallowed, call a poison control center or doctor immediately for treatment advice. Have person sip glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Never give anything by mouth to an unconscious person.

INHALATION: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

NOTES TO PHYSICIAN: This material contains a cholinesterase inhibitor. Measurement of blood cholinesterase activity may be useful in monitoring exposure. If signs of cholinesterase inhibition appear, atropine sulfate is antidotal. 2-PAM (PROTOPAM) is also antidotal and may be used in conjunction with atropine but should not be used alone. Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid which can cause pneumonitis.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: 106°F TAG CC

EXTINGUISHING MEDIA: CO2, Dry Chemical, Foam and Water Fog.

HAZARDOUS COMBUSTION PRODUCTS: Thermal decomposition may produce dimethylsulfide, sulfur dioxide, carbon monoxide, carbon dioxide, phosphorous-pentoxide and nitrogen oxides.

FIRE FIGHTING PROCEDURES: Liquid evaporates and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such

as pilot lights, welding equipment, and electrical motors and switches. Fire hazard is greater as liquid temperature rises above 85 F.

Products of combustion from fires involving this material may be toxic. Avoid breathing smoke and mists. Avoid personnel and equipment contact with fallout and runoff. Minimize the amount of water used for fire fighting. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and fire fighting equipment before reuse. Read the entire document.

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6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Soak up spilled material with paper towels or other absorbent material and discard in trash. Product is highly flammable. Keep all sources of ignition away from spill.
LARGE SPILL: Eliminate all sources of ignition in vicinity of spill or released vapor.

Liquid spills on floor or other impervious surfaces should be contained or diked, and should be absorbed with attapulgite, bentonite or other absorbent material. Collect contaminated absorbent, place in plastic-lined metal drum and dispose of in accordance with instructions provided under Section 13. "DISPOSAL". Thoroughly scrub floor or other impervious surface with a strong industrial type detergent solution and rinse with water.

For liquid spills that soak into the ground, contact the applicable Federal, State and or County Health Dept. for disposal recommendations. If disposal is required then refer to Section 13 "DISPOSAL" for instructions.

Leaking containers should be separated from non-leakers and either the container or its contents transferred to a drum or other non-leaking container and disposed of in accordance with instructions provided under Section 13 "Disposal". Any recovered spilled liquid should be similarly collected and disposed of.

Do not contaminate water, foodstuffs or feed by storage or disposal.

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7. HANDLING AND STORAGE

GENERAL PROCEDURES: Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Store in a secure, preferably locked, storage area. Do not store diluted spray.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: No special ventilation is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standards (in Section 8), then special ventilation may be required.

PERSONAL PROTECTION

EYES AND FACE: Do not get this material in your eyes. Eye contact should be avoided by wearing chemical goggles or a face shield.
SKIN: Avoid contact with skin or clothing. Skin contact should be minimized by wearing protective clothing including chemical resistant gloves.
RESPIRATORY: Handling of the undiluted product is not likely to present an airborne exposure concern during normal handling. In the event of an accidential discharge of the material during manufacture or handling which produces a heavy vapor or mist, workers should put on respiratory protection equipment. Consult respirator manufacturer to determine appropriate type of equipment. Observe respirator use limitations specified by NIOSH MSHA or the manufacturer.

For application of product diluted in accordance with label instructions, no special respiratory protection is required.

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):

	EXPOSURE LIMITS		
Chemical Name	**OSHA PEL**	**ACGIH TLV**	**ACGIH STEL**
Malathion	15 mg/m3	10 mg/m3	None
Aromatic Hydrocarbon	100 ppm	100 ppm	150 ppm

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9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

APPEARANCE: Amber liquid with garlic-like odor
PERCENT VOLATILE: No Data Available
SOLUBILITY IN WATER: Miscible with water.
DENSITY: No Data Available
SPECIFIC GRAVITY: 1.040 to 1.055 gr/cc at 20°C
VISCOSITY: Same as water.

COMMENTS:

pH: 5.0 -8.0 (For a 1% Solution in 50/50 IPA/Water)

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10. STABILITY AND REACTIVITY

STABLE: YES
HAZARDOUS POLYMERIZATION: YES
POLYMERIZATION: May occur at temperatures above 100øC.
HAZARDOUS DECOMPOSITION: Thermal decomposition may produce dimethylsulfide, sulfur dioxide, carbon monoxide, carbon dioxide, phosphorous-pentoxide and nitrogen oxides.
INCOMPATIBLE MATERIALS: May react with strong bases or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

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11. TOXICOLOGICAL INFORMATION

ACUTE

EYES: The results of the rabbit eye studies indicate that, corneal involvement or irritation clearing in 8-21 days.
DERMAL LD_{50}: The results of the rabbit skin irritation test indicate mild to moderate skin irritation. The Draize irritation score (range 0-8) was 3.8. The dermal LD50 in rabbits is greater than 2 g/kg.
ORAL LD_{50}: The oral LD50 in male rats is 2.314 g/kg. The oral LD50 in female rats is 2.13 g/kg.
INHALATION LC_{50}: The 4-hour inhalation LC50 in rats is greater than 5 mg/l for the product diluted at a ratio of 1 to 2.5.

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12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: This pesticide is toxic to fish, aquatic invertebrates, and aquatic life stages of amphibians.

Do not apply directly to water. Drift and runoff may be hazardous to aquatic organisms in areas near the application site. Do not contaminate water when disposing of equipment washwaters. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

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13. DISPOSAL CONSIDERATIONS

FOR LARGE SPILLS: Material collected that cannot be reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, State or local procedures.
PRODUCT DISPOSAL: If necessary to dispose of partially filled product container, securely wrap it in several layers of newspaper and discard in trash.
EMPTY CONTAINER: Do not reuse container. Rinse throughly before discarding in trash.

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14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Not Regulated
PRIMARY HAZARD CLASS/DIVISION: None
UN/NA NUMBER: NONE
PACKING GROUP: No
U.S. SURFACE FREIGHT CLASS: Insecticides, Fungicides, Insect or animal repellents or vermin exterminators, NOI, Other than poison

AIR (ICAO/IATA)

PROPER SHIPPING NAME: Consumer Commodity
SPECIAL SHIPPING NOTES: The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

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15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

PRODUCT CLASSIFICATION UNDER SECTION 311 OF SARA				
ACUTE: YES	**CHRONIC:** NO	**FIRE:** YES	**REACTIVITY:** NO	**PRESSURE GENERATING:** NO

313 REPORTABLE INGREDIENTS: Malathion (CAS No. 121-75-5)

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: All non FIFRA regulated components are on the US EPA's TSCA Inventory List.

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16. OTHER INFORMATION

HMIS CODES

FIRE: 2 **HEALTH:** 2 **REACTIVITY:** 0 **PROTECTION:** -

NFPA CODES

FIRE: 3 **HEALTH:** 2 **REACTIVITY:** 0 **SPECIAL:** -

APPROVAL DATE: 05/11/2001

REVISION SUMMARY New MSDS

MANUFACTURER DISCLAIMER: The information contained herein is, to the best of the Manufacturer's (see Section 1) knowledge and belief, accurate and reliable as of the date of preparation of this document. However, no warranty or guarantee, express or implied, is made as to the accuracy or reliability, and the Manufacturer shall not be liable for any loss or damage arising out of the use thereof. No authorization is given or implied to use any patented invention without a license. In addition, the Manufacturer shall not be liable for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.

SAFETY DATA SHEET

Issuing Date 15-Dec-2014 **Revision Date** 18-Sept-2015 **Revision Number** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

GHS Product Identifier

Product Name: **Pothole Patch**

Other Means of Identification

Product Code(s): **H5450**
Synonyms None

Recommended Use of the Chemical and Restrictions on Use

Recommended Use: No Information Available

Uses Advised Against: No information Available

Supplier's Details
Manufacturer Address
ThorWorks Industries, Inc.
2520 S. Campbell St.
Sandusky, OH 44870
www.sealbest.com
1-800-326-1994

Emergency Telephone Number Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification
This chemical is not considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200).

GHS Label Elements, Including Precautionary Statements

Emergency Overview

Hazard Symbol **None**
Signal Word **None**

The product contains no substances which at their given concentration are considered to be hazardous to health.

Appearance: Black **Physical State:** Liquid/Solid Mix **Odor:** Hydrocarbon

Precautionary Statements

Prevention	•None
General Advice	•None
Storage	•Store in a well-ventilated place.
Disposal	• Dispose of according to the appropriate state, regional, or local regulations. See Section 13.

Hazard Not Otherwise Classified (HNOC)
Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Weight %	Trade Secret
Limestone	1317-65-3	80-98	*
Asphalt	8052-42-4	2-10	*
Fuels, Diesel, No. 2	68476-34-6	<3	*
Additives	N/A	<3	*

**The exact percentage of composition has been withheld as a trade secret.*

4. FIRST AID MEASURES

Description of Necessary First-Aid Measures

Eye Contact Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin Contact Wash off immediately with soap and plenty of water. In the case of skin irritation or allergic reactions, see a physician.

Inhalation Move to fresh air. If symptoms persist, call a physician.

Ingestion Drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most Important Symptoms/Effects, Acute and Delayed

Most Important Symptoms/Effects No information available

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary

Notes to Physician Treat Symptomatically. May cause sensitization by skin contact.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Carbon Dioxide (CO_2). Dry Chemical. Foam. Water Fog.

Unsuitable Extinguishing Media CAUTION: Use of water spray when fighting fire may scatter and spread fire.

Specific Hazards Arising from the Chemical

Fire may produce corrosive, irritating and/or toxic gases.

Explosion Data

Sensitivity to Mechanical Impact None

Sensitivity to Static Discharge None

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure- demand MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Personal Precautions: Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Use personal protective equipment.

Environmental Precautions

Environmental Precautions: See Section 12 for additional Ecological Information

Methods and Materials for Containment and Cleaning Up

Methods for Containment: Prevent further spillage if safe to do so.

Methods for Cleaning Up: Collect spillage. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. Do not contaminate water.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Handling: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes, and clothing. Wear personal protective equipment. Avoid breathing vapors or mists. Do not eat, drink, or smoke when using this product. Wash thoroughly after handling. Do not heat above 120° F when using.

Conditions for Safe Storage, Including Any Incompatibilities

Storage: Keep container tightly closed. Store away from incompatible materials.

Incompatible Products: Strong oxidizing agents. Acids.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Asphalt 8052-42-4	TWA: 0.5 mg/m³ benzene soluble aerosol fume, inhalable fraction	-	Ceiling: 5 mg/m³ fume 15 min.
Fuels, Diesel, No. 2 68476-34-6	TWA: 100 mg/m³ Inhalable fraction and vapor	-	-

Appropriate Engineering Controls

Engineering Measures: Showers
Eyewash Stations
Ventilation Systems

Individual Protection Measures, such as Personal Protective Equipment

Eye/Face Protection: Safety glasses with side shields.

Skin and Body Protection: Impervious gloves.

Respiratory Protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice. Do not smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State: Liquid/Solid Mix
Appearance: Black
Odor: Hydrocarbon
Odor Threshold: No Information Available

Property	Values	Remarks/Method
pH	No data available	None known
Melting Point/Range	No data available	None known
Boiling Point/Boiling Range	200° C	None known
Flash Point	>200° F	Cleveland Open Cup
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor Pressure	No data available	None known
Vapor Density	No data available	None known
Specific Density	2.4	
Solubility	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition Temperature	No data available	None known
Decomposition Temperature	No data available	None known
Viscosity	No data available	None known
Flammable Class	IIIB	
Explosive Properties	No data available	
Oxidizing Properties	No data available	

Other Information

VOC Content Less than 100 g/l

10. STABILITY AND REACTIVITY

Reactivity: No data available
Chemical Stability: Stable under recommended storage conditions.
Possibility of Hazardous Reactions: None under normal processing.
Hazardous Polymerization: Hazardous polymerization does not occur.
Conditions to Avoid: Heat, Sparks, Flame. Avoid high temperatures.
Incompatible Materials: Strong oxidizing agents. Acids.
Hazardous Decomposition Products: Carbon Monoxide (CO), Carbon Dioxide (CO^2), Hydrogen Sulfide, Nitrogen Dioxide

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Product Information

Inhalation: Inhalation of fumes/vapors may cause irritation of respiratory tract.
Eye Contact: Contact with eyes may cause irritation.
Skin Contact: May cause irritation.
Ingestion: Ingestion may cause stomach discomfort.

Chemical Name	LD50 Oral	LD50 Dermal	LD50 Inhalation
Asphalt	5000 mg/kg (Rat)	>2000 mg/kg (Rabbit)	-

Symptoms Related to the Physical, Chemical, and Toxicological Characteristics

Symptoms: No information available.

Delayed and Immediate Effects and also Chronic Effects from Short and Long Term Exposure

Sensitization: No information available.
Mutagenic Effects: No information available.
Carcinogenicity: The table below indicates whether each agency has listed any ingredient as a carcinogen. The IARC, NTP, and OSHA do not list asphalt as a carcinogen. In general, the oxidation of polycyclic aromatic hydrocarbons destroys their carcinogenic potential. Petroleum asphalt, shale oil asphalts, and coal tars show distinct variation in their relative carcinogenicity for experimental animals.

Chemical Name	ACGIH	IARC	NTP	OSHA
Asphalt	A3	Group 2B	Reasonably Anticipated	X
Fuels, Diesel, No. 2		Group 3		

ACGIH: (American Conference of Governmental Industrial Hygienists)
A3 – Animal Carcinogen
IRAC: (International Agency for Research on Cancer)
Group 2B – Possibly Carcinogenic to Humans
Group 3 – Not Classifiable as to Carcinogenicity to Humans
NTP: (National Toxicity Program)
Reasonably Anticipated – Reasonably Anticipated to be a Human Carcinogen
OSHA: (Occupational Safety & Health Administration)
X – Present

Reproductive Toxicity: No information available.
STOT - Single Exposure: No information available.
STOT – Repeated Exposure: No information available.
Aspiration Hazard: No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity
This product has no know eco-toxicological effects.

Persistence and Degradability: No information available.

Bioaccumulation

Chemical Name	Log Pow
Asphalt	6.006

Other Adverse Effects: No information available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods: This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging: Do not re-use empty containers.

14. TRANSPORTATION INFORMATION

DOT: Not regulated

15. REGULATORY INFORMATION

International Inventories
TSCA – Complies
DSL/NDSL – Complies

Legend
TSCA – United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL – Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Safe Drinking Water Act (SDWA) Not Regulated

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations
California Proposition 65: This product does not contain any Proposition 65 chemicals.

U.S. State Right-To-Know Regulations
"X" designates that the ingredients are listed on the state right to know list.

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Limestone	X	X	X		X
Asphalt	X	X	X		X
Fuels, Diesel, No. 2	X		X		

U.S. EPA Label Information
EPA Pesticide Registration Number: Not applicable

16. OTHER INFORMATION

NFPA	**Health Hazard:** 1	**Flammability:** 1	**Instability:** 0	**Physical and Chemical Hazards-**
HMIS	**Health Hazard:** 1	**Flammability:** 1	**Physical Hazard:** 0	**Personal Protection: X**

Revision Date: 18-Sept-2015
Revision Note: Revision #1

General Disclaimer
The information provided on this SDS is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

Material Safety Data Sheet
[OSHA 29 CFR 1910.1200]

The QUIKRETE® Companies
One Securities Centre
3490 Piedmont Road, Suite 1300
Atlanta, GA 30329

Emergency Telephone Number
(770) 216-9580

Information Telephone Number
(770) 216-9580

Revision: July 2003

MSDS J

SECTION I: PRODUCT IDENTIFICATION

Product Types: QUIKRETE® DRY PACKAGED PORTLAND CEMENT BASED PRODUCTS (SERIES 1)

QUIKRETE® Product Name	Code #	QUIKRETE® Product Name	Code #
CONCRETE MIX	1101	FENCE POST MIX	1005
FIBER REINFORCED CONCRETE	1006	CRACK RESISTANT CONCRETE	1006-80
QUIKRETE® 5000	1007	LIGHT WEIGHT CONCRETE	1008
FAST SETTING CONCRETE	1004	RIP RAP	1129
SAND MIX	1103	VINYL CONCRETE PATCHER	1133, 1132
BASIC CONCRETE MIX	1015-60	HANDI-CRETE CONCRETE	1141
LIGHT WEIGHT SAND MIX	1103-51	HANDI-CRETE SAND MIX	1143
HIGH YIELD CONCRETE	1100	B-CRETE	1101-81
COMMERCIAL GRADE FASTSET™ CEMENT			1124-92
COMMERCIAL GRADE FASTSET™ NON SHRINK GROUT			1585-09
COMMERCIAL GRADE FASTSET™ REPAIR MORTAR			1241-60
COMMERCIAL GRADE FASTSET™ CONCRETE			1004-51
COARSE & FINE CORE FILL GROUTS (MASONRY GROUTS)			SR-9003, SR-9006
(ALSO APPLIES TO CUSTOM BLENDED AND PRIVATE LABEL CONCRETES AND MORTARS)			

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components	CAS No.	PEL (OSHA) mg/M^3	TLV (ACGIH) mg/M^3
Silica Sand, crystalline	14808-60-7	10 / % SiO_2 +2	0.05 (respirable)
Portland Cement	65997-15-1	5	5
Lime	01305-62-0	5	5
May contain one or more of the following:			
Amorphous Silica (From Fly Ash)	07631-86-9	80 mg/M^3 / % SiO_2	10
Alumina (From Fly Ash)	01344-28-1	5	5
Limestone Dust	01317-65-3	5	5
Calcium Sulfate	10101-41-4 or 13397-24-5	5	5
Calcium Sulfo Aluminate	65997-16-2	15	10

Other Limits: NIOSH has recommended that the permissible exposure limit be changed to 50 micrograms respirable free silica per cubic meter of air (50 ug/M^3) averaged over a work shift of up to 10 hours per day, 40 hours per week. The NIOSH Criteria Document for Crystalline Silica should be consulted for more detailed information.

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance: Gray to gray-brown colored powder. Some products contain coarse aggregate. (QUIKRETE Vinyl Concrete Patcher available in white)

Specific Gravity:	2.6 to 3.15	**Melting Point:**	>2700 °F	**Boiling Point:**	>2700 °F
Vapor Pressure:	None	**Vapor Density:**	None	**Evaporation Rate:**	None
Solubility in Water:	Slight	**Odor:**	None	**Solubility in Water:**	Slight

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Non combustible and not explosive.

SECTION V - REACTIVITY DATA

Stability: Stable.
Incompatibility (Materials to Avoid): Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, oxygen difluoride, may cause fires.
Hazardous Decomposition or Byproducts: Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas - silicon tetrafluoride.
Hazardous Polymerization: Will not occur.
Condition to Avoid: Keep dry until used to preserve product utility.

SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry:	Inhalation?	Yes
	Skin?	Yes
	Ingestion?	Yes

Acute Exposure: Product becomes alkaline when exposed to moisture. Exposure can dry the skin, cause alkali burns and effect the mucous membranes. Dust can irritate the eyes and upper respiratory system. Toxic effects noted in animals include, for acute exposures, alveolar damage with pulmonary edema.
Chronic Exposure: Dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs and possibly cancer. There is evidence that exposure to respirable silica or the disease silicosis is associated with an increased incidence of Scleroderma, tuberculosis and kidney disorders.

Carcinogenicity Listings:	NTP:	Known carcinogen
	OSHA:	Not listed as a carcinogen
	IARC Monographs:	Group 1 Carcinogen
	California Proposition 65:	Known carcinogen

NTP: The National Toxicology Program, in its "Ninth Report on Carcinogens" (released May 15, 2000) concluded that "Respirable crystalline silica (RCS), primarily quartz dusts occurring in industrial and occupational settings, is *known to be a human carcinogen*, based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to RCS and increased lung cancer rates in workers exposed to crystalline silica dust (reviewed in IAC, 1997; Brown *et al.*, 1997; Hind *et al.*, 1997)

IARC: The International Agency for Research on Cancer ("IARC") concluded that there was "*sufficient evidence* in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupational sources", and that there is "*sufficient evidence* in experimental animals for the carcinogenicity of quartz or cristobalite." The overall IARC evaluation was that "crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is *carcinogenic to humans (*Group 1)." The IARC evaluation noted that "carcinogenicity was not detected in all industrial circumstances or studies. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." For further information on the IARC evaluation, see IARC Monographs on the Evaluation of carcinogenic Risks to Humans, Volume 68, "Silica, Some Silicates..." (1997)

Signs and Symptoms of Exposure: Symptoms of excessive exposure to the dust include shortness of breath and reduced pulmonary function. Excessive exposure to skin and eyes especially when mixed with water can cause caustic burns as severe as third degree.

Medical Conditions Generally Aggravated by Exposure: Individuals with sensitive skin and with pulmonary and/or respiratory disease, including, but not limited to, asthma and bronchitis, or subject to eye irritation, should be precluded from exposure.

Emergency First Aid Procedures:

Eyes: Immediately flush eye thoroughly with water. Continue flushing eye for at least 15 minutes, including under lids, to remove all particles. Call physician immediately.

Skin: Wash skin with cool water and pH-neutral soap or a mild detergent. Seek medical treatment if irritation or inflammation develops or persists. Seek immediate medical treatment in the event of burns.

Inhalation: Remove person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. Seek medical help if coughing and other symptoms do not subside. Inhalation of large amounts of portland cement require immediate medical attention.

Ingestion: Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Spills: If spilled, use dustless methods (vacuum) and place into covered container for disposal or use if not contaminated or wet. Use adequate ventilation.

Waste Disposal Method: The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is not classified as a hazardous waste under RCRA or CERCLA.

SECTION VIII - CONTROL MEASURES

Inhalation: DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator is recommended. Local exhaust can be used, if necessary, to control airborne dust levels.

Eyes: Wear tight fitting goggles.

Skin: The use of barrier creams or impervious gloves, boots and clothing to protect the skin from contact is recommended. Following work, workers should shower with soap and water. Precautions must be observed because burns occur with little warning -- little heat is sensed.

WARN EMPLOYEES AND/OR CUSTOMERS OF THE HAZARDS AND REQUIRED OSHA PRECAUTIONS ASSOCIATED WITH THE USE OF THIS PRODUCT.

NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects, which may be caused by exposure to silica contained in our products.