

Liquid Fertilizer MSDS

Material Safety Data Sheet

Effective Date: 22-JAN-2000
Product: 10-34-0 LIQUID FERTILIZER

I. IDENTIFICATION

Chemical Name: INORGANIC PLANT NUTRIENT
Chemical Family: INORGANIC FERTILIZER
Formula: NOT APPLICABLE, FORMULATED MIXTURE.
Synonyms: AMMONIUM POLYPHOSPHATE SOLUTION
CAS Number: NOT APPLICABLE, FORMULATED MIXTURE.
EPA Number: NONE REQUIRED

II. PHYSICAL DATA

Boiling Point: NOT ESTABLISHED
Freezing Point: NOT ESTABLISHED
Spec Gravity: 1.385 GMS/CC.
Vapor Pressure: NOT ESTABLISHED
Vapor Density: NOT APPLICABLE
Solubility: 1
Volatiles: NOT ESTABLISHED
Evaporation: NOT APPLICABLE
Melting Point: NOT APPLICABLE
Appearance: GREEN/OPAQUE BLACK SOL., AMMONIA ODOR.

III. INGREDIENTS

Material	CAS Number	Percent	TLV	Hazard
AMMONIACAL NITROGEN (AS N)		10.00	15 MG/M3	OXIDIZER, MILD SKIN AND EYE IRRITANT
PHOSPHORUS (AS P2O5)		34.00		
MAGNESIUM, ALUMINUM AND IRON		LESS THAN 3%		

IV. FIRE AND EXPLOSION HAZARD

Flash Point: NONCOMBUSTIBLE
Autoignition Temp: NOT APPLICABLE
Flammable Limit: NOT APPLICABLE
Extinguishing Media: NON-COMBUSTIBLE SOLID - USE EXTINGUISHING MEDIA
FOR UNDERLYING CAUSE OF FIRE.
Special Fire Fight Proc: USE POSITIVE PRESSURE SELF-CONTAINED BREATHING
APPARATUS WITH FULL PROTECTIVE CLOTHING. USE
WATER SPRAY TO KEEP FIRE EXPOSED CONTAINERS
COOL.

Material Safety Data Sheet

Effective Date: 22-JAN-2000
Product: 10-34-0 LIQUID FERTILIZER

Fire and Expl Hazard: AQUEOUS SOLUTIONS AT ELEVATED TEMPERATURES
RELEASE AMMONIA.

V. HEALTH HAZARD

Carcinogen Information: NONE CURRENTLY KNOWN.

ACUTE EFFECTS OF OVER EXPOSURE

Swallowing: IF SWALLOWED. IRRITATION MAY DEVELOP IN THE
MOUTH, ESOPHAGUS, STOMACH, ETC.
Skin Absorption: NO INFORMATION FOUND ON SKIN ABSORPTION.
Inhalation: NO INFORMATION FOUND ON INHALATION DATA, MIST
MAY IRRITATE THE MUCOUS MEMBRANES.
Skin contact: NO INFORMATION FOUND ON DERMAL LD50, NORMALLY
NOT IRRITATING TO THE SKIN.
Eye Contact: CONTACT WITH LIQUID MAY CAUSE IRRITATION.
Chronic Effects: NONE CURRENTLY KNOWN.
Other Hazard: NONE CURRENTLY KNOWN.

EMERGENCY AND FIRST AID PROCEDURES

Swallowing: IF SWALLOWED AND THE PERSON IS CONSCIOUS,
DILUTE STOMACH CONTENTS WITH WATER AND MAKE THE
PERSON VOMIT, OBTAIN MEDICAL ATTENTION.
Skin: WASH THOROUGHLY WITH SOAP AND WATER. IF
IRRITATION DEVELOPS CONSULT A PHYSICIAN. WASH
CLOTHING BEFORE REUSE.
Inhalation: MOVE TO FRESH AIR. IF DISCOMFORT CONTINUES,
SEEK MEDICAL ATTENTION.
Eyes: FLUSH EYES WITH WATER FOR 15 MINUTES, HOLDING
EYELIDS OPEN. IF IRRITATION DEVELOPS, CONSULT A
PHYSICIAN.
Notes to Physician: IN THE EVENT OF AN ADVERSE RESPONSE, TREATMENT
SHOULD BE DIRECTED TOWARD CONTROL OF THE
SYMPTOMS.

VI. REACTIVITY

Stability: Stable
Conditions to Avoid: EXCESSIVE HEAT.
Polymerization: Will Not Occur
Conditions to Avoid: NONE CURRENTLY KNOWN.
Incompatibility material: NOT CURRENTLY KNOWN.
Hazardous Combustion: HAZARDOUS DECOMPOSITION PRODUCTS ARE FORMED
UNDER FIRE CONDITIONS.

Material Safety Data Sheet

Effective Date: 22-JAN-2000
Product: 10-34-0 LIQUID FERTILIZER

VII. SPILL OR LEAK PROCEDURES

Spill or Leak Proc: SPILLED AMMONIUM NITRATE SOLUTION SHOULD BE DIKED AND ABSORBED IN ABSORBENT CLAY AND PLACED IN SUITABLE CONTAINER FOR REMOVAL. KEEP SPILL FROM ENTERING SEWERS AND WATERWAYS. IF UNCONTAMINATED, RECOVER AND REUSE PRODUCT.

Waste Disposal Method: THIS MATERIAL MUST BE DISPOSED OF ACCORDING TO FEDERAL, STATE, OR LOCAL PROCEDURES UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT.

VIII. SPECIAL PROTECTION INFORMATION

Respiration: NONE REQUIRED UNDER NORMAL CONDITIONS.
Ventilation: NONE REQUIRED UNDER NORMAL CONDITIONS.
Gloves: IMPERVIOUS
Eyes: CHEMICAL WORKERS GOGGLES.
Other: EYE WASH STATION, IMPERVIOUS APRON AND FOOTWEAR.

IX. SPECIAL PRECAUTIONS

Special precaution: KEEP OUT OF REACH OF CHILDREN. DO NOT STORE WITH FOOD, FEED, OR OTHER MATERIAL TO BE USED OR CONSUMED BY HUMANS OR ANIMALS. DO NOT CONTAMINATE WATER SUPPLIES, LAKES, STREAMS, OR PONDS. EXTREME CAUTION SHOULD BE TAKEN BEFORE ATTEMPTING TO WELD OR TORCH-CUT ANY CONTAINER WHEN AMMONIUM NITRATE COULD BE TRAPPED, FOR EXAMPLE IN THE AREA BETWEEN TANK SHELL AND A REINFORCING PLATE, OR IN PIPING, OR INSIDE THE CORE OF SCREW CONVEYOR, ETC. NITROGEN OXIDE GASES EMITTED ON DECOMPOSITION ARE EXTREMELY TOXIC. WELDING OR CUTTING SHOULD NOT BE ALLOWED ON VESSELS OR PIPING CONTAINING MATERIAL WITHOUT PROPER FLUSH, (OR STEAM) AND VENTING.

Other precaution: AMMONIUM NITRATE IS A PLANT NUTRIENT. HOWEVER, LARGE SPILLS CAN KILL VEGETATION. IF WATERWAYS ARE CONTAMINATED, IT MAY PROMOTE EUTROPHICATION AND CAUSE FISH KILL. IF DRINKING WATER IS CONTAMINATED BEYOND 10 MG OF NITRATE NITROGEN PER LITER OF WATER, IT SHOULD BE REPORTED TO THE PROPER AUTHORITIES.

Helena Chemical Company
PH: 901-761-0050
CHEMTREC: 800-424-9300

27-FEB-2003 16:27:45
Page 4 Of 4

Material Safety Data Sheet

Effective Date: 22-JAN-2000
Product: 10-34-0 LIQUID FERTILIZER

NITRATE NITROGEN PER LITER OF WATER, IT SHOULD
BE REPORTED TO THE PROPER AUTHORITIES
AUTHORITIES.

X. SHIPPING INFORMATION

Shipping name: NOT REGULATED BY DOT
Hazard Class: NONE
Identification No: NONE
Labels Required: NONE REQUIRED
Placarding: NONE REQUIRED
Freight Class: COMPOUND, FERTILIZER, (MANUFACTURED
FERTILIZER), LIQUID, NOIBN

Chemical Name Equivalent R.Q.

NOT APPLICABLE

NOT APPLICABLE

XI. GENERAL PRODUCT INFORMATION

National Fire Protection Association Rating:
(Rating level: 4-Extreme, 3-High, 2-Moderate, 1-Slight, 0-Minimum)

Health: 1

Fire: 0

Reactivity: 0

S.A.R.A. Title III Hazard Classification: (Yes/No)

Immediate (Acute) Health: Y

Delayed (Chronic) Health: N

Sudden Release of pressure: N

Fire: N

Reactive: N

Mail inquiries to: 225 Schilling Blvd., Suite 300 Collierville, TN 38017
Helena Chemical Company believes that the data contained herein is factual.
This data is not to be taken as a warranty or representation of legal
responsibility. It is offered solely for your consideration, investigation
and verification.

AGRSOLUTIONS

Liquid Fertilizer

**For Chemical Emergency, Spill, Leak, Fire, Exposure or Accident,
CALL CHEMTREC – Day or Night 1-800-424-9300 or 1-800-228-5635**

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: 32-00-00 Liquid Fertilizer
 Synonyms: 32% UAN
 Company ID: Agrilience, LLC
 PO Box 64089
 St. Paul, MN 55164-0089
 Phone #s: Emergency Phone Number - CHEMTREC (day or night): 1-800-424-9300
 For Medical Emergency - Call 1-877-424-7452
 Date: 07/01/03 Supersedes: New

2. COMPOSITION INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS Reg. No.</u>	<u>%</u>
Ammonium nitrate	6484-52-2	45
Urea	57-13-6	35
Water	7732-18-5	20
Typical N-P-K Composition		
Total Nitrogen as N		32%
Total Phosphorus as P ₂ O ₅		0%
Total Potassium		0%
Fertilizer salts, inert ingredients		78%

See Section 8 for Personal Protection Limits (PPE).

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance & Odor: Colorless solution, with slight fertilizer odor.
 Warning Statements: This is a liquid fertilizer product and we should avoid extreme temperatures. Not generally harmful if swallowed, ingestion of large amounts may cause systemic ammonia poisoning and nitrate poisoning. May cause aggravation of the eyes. May cause local discomfort if skin with cuts is exposed.

Potential Adverse Health Effects:

Eye Contact: May cause eye aggravation.
 Skin Contact: Not absorbed through the skin.
 Ingestion: Not generally considered hazardous. Ingestion of large amounts may cause ammonia and/or nitrate poisoning.
 Inhalation: Low problem under normal conditions, if difficulty in breathing, remove to fresh air.
 Effects of overdose: Ingestion of large amounts may cause dizziness, abdominal cramps, vomiting and diarrhea and discomfort to skin and eyes.

4. FIRST AID MEASURES

If in Eyes: Flush with cool water for 15 minutes. Remove contact lenses, if applicable and continue flushing for 15 minutes. Hold eyelids apart to rinse the entire surface of the eyes and lids. Seek medical attention if irritation persists.
 If on Skin: Wash skin with soap and water. Obtain medical attention if irritation persists.

AGRISOLUTIONS

Liquid Fertilizer

If Swallowed: Induce vomiting after the victim drinks 1 to 2 glasses of water. Never give anything to a person who is unconscious. Obtain medical attention.

If Inhaled: Remove to fresh air. If not breathing, call 9-1-1 and provide mouth-to-mouth resuscitation. Seek medical help if breathing is difficult.

5. FIRE FIGHTING MEASURES

Flash Point: Non-flammable. Flammable Limits: Not established.

Extinguishing Media: Considered non-combustible, use medium appropriate to surrounding fire, water spray or fog, foam, carbon dioxide or dry chemical.

Special Fire Fighting Procedures: None in liquid state. Organic and oxidizable materials can sensitize dry ammonium nitrate to a readily explodable state; can detonate if heated under confinement with high pressure. Provide for the protection of the employees and residents: Notify local authorities that firemen should wear self-contained breathing apparatus with full protecting clothing, be immediately relieved from duty, if exposed to contaminated smoke which may include and are not limited to oxides of nitrogen and carbon; and ammonia when heated to decomposition. See section 11 for toxicological data.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Prevent entry into sewer or waterways.

For small spills, absorb in sand or kitty litter or other absorbent, then sweep up and use as a fertilizer by applying to soil using good agricultural and soil management.

For large spill on roadside, avoid contamination of water ways as this liquid fertilizer will increase algae formation, use diking to keep the spill in the ditch. Use loader to remove fertilizer and soil and apply the mixture as a fertilizer using good agricultural and soil management. Replace removed soil and leave as it was before the large spill.

7. HANDLING AND STORAGE

Keep temperature above 32°F to keep solution liquid and be able to transfer. Be sure to use proper confined space entry procedures when entering storage tanks or pits. Do not allow the solution to dry. Protect from excessive heat. Store in a cool, dry place away from children, food, feed and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco usage, and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal Protective Equipment:

Eye Protection: Safety glasses or chemical splash-proof goggles.

Skin Contact: To avoid skin contact, wear normal working clothing such as coveralls or long-sleeved shirt, long pants and boots.

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washing, use detergent and hot water. Keep and wash PPE separately from other laundry.

Respiratory Protection: None required under normal operating conditions.

Ventilation Protection: Provide adequate ventilation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorless liquid. Odor: Slight odor.

MATERIAL SAFETY DATA SHEET

32-00-00

AGRISOLUTIONS

Liquid Fertilizer

Solubility: Complete in water
Specific gravity: 1.327 @ 60°F

pH: 6.5 - 7.5

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

Chemical Stability: Stable
Conditions to Avoid: Excessive heat and fire conditions.
Materials to avoid: Organic and easily oxidizable matter.
Hazardous Decomposition Products: Oxides of nitrogen, carbon, and ammonia will be formed when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Routes of entry: Eye, skin contact, inhalation and ingestion.

Eye Irritation: Low
Skin Irritation: Slight potential

Acute Oral LD₅₀ (rat): 14,300 mg/kg
Acute Dermal LD₅₀(rat): 11,500 mg/kg
Carcinogenicity: Not by NTP or IARC.
Low acute toxicity to fish

12. ECOLOGICAL INFORMATION

Liquid fertilizer discharges. Avoid discharges into waterways as fertilizer can cause nitrification and algae blooms.

13. DISPOSAL CONSIDERATIONS

Steps to be taken if material is released or spilled

Wear proper PPE found in section 8. Contain, absorb and maximize recovery.

Precautions to be taken in handling and storing

Protect from excessive heat. Store in a cool dry place away from water, food and feed.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in the Handling and Storage Section, Section 7 of this MSDS

DOT Classification: Not regulated by US DOT
Reportable Quantity: None

15. REGULATORY INFORMATION

SARA Hazard Notification/Reporting

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

SARA Title 313, Toxic chemicals: Ammonium nitrate solution

MATERIAL SAFETY DATA SHEET

32-00-00

AGRISOLUTIONS

Liquid Fertilizer

Section 302-304 (30 CFR 350): None
Extremely hazardous substance (EHS): None

SARA/OSHA Hazardous chemical reporting quantity: None.
RCRA Hazardous waste: None

16. OTHER

Reasons for revision: New ANSI Format.

National Fire Protection Association (NFPA)
Hazardous Materials Identification System (HMIS)

NFPA		HMIS	
	0 Least		
1 Health	1 Slight	1	Health
0 Flammability	2 Moderate	0	Flammability
0 Instability	3 High	0	Reactivity
	4 Severe	D	PPE

Prepared by: Dennis E. Belau

Reviewed by: Kip Landwehr

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AGRISOLUTIONS

Liquid Fertilizer

HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

AMMONIUM THIOSULPHATE SOLUTION

12-0-0-26 (S)

Material Safety Data Sheet

Section 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION		
1.1 Product Name	Ammonium Thiosulfate Solution	
Chemical Family	Inorganic salt solution	
Chemical / Synonyms	Thio-Sul, 12-0-0-26S, Ammonium Hypo	
C.A.S Number	7783-18-3	
1.2 Manufacturer	Poole Chemical Co. Inc. P.O. Box 10 111 N. 1ST Street Texline, TX 79087	
Information	(806) 362-4261	
1.3 Emergency Contact	(602) 791-2940 (KERLEY) (800) 424-9300 (CHEMTREC)	
Section 2: COMPOSITION, INFORMATION ON INGREDIENTS		
Composition	% (Typical)	Toxicity Data
Ammonium Thiosulfate (NH ₄) ₂ S ₂ O ₃	60	ori-rat LD 50: 2850 mg/kg*
Water	40	
*NIOSH RTECS (1987 Supplement)		
Section 3: HEALTH and HAZARDS INFORMATION		
NFPA:	Health	Flammability - 0 Reactivity - 1
Eye	Contact with the eyes by product mist or solution may cause irritation or a burning sensation.	
Skin Contact	Prolonged or repeated contact with product mist or solution may cause skin irritation.	

Ingestion	Ingestion of product solution may cause irritation of the gastrointestinal tract to include nausea, vomiting and diarrhea. Ammonium thiosulfate is considered to have a low toxicity to humans.
Inhalation	Inhalation of product mist may cause irritation of the nose, throat and respiratory tract.
Chronic Effects / Carcinogenicity	Not listed as a carcinogen by NTP, IARC or OSHA.
Section 4: OCCUPATIONAL EXPOSURE LIMITS	
None established for this product. ACGIH limits for ammonia are TWA 25 ppm STEL 35 ppm. The OSHA PEL for ammonia is 50 ppm.	
Section 5: FIRST AID MEASURES	
Eyes	Immediately flush with large quantities of water for 15 minutes. Hold eyelids apart during irrigation to insure thorough flushing of the entire area of the eye and lids with water. Obtain medical attention if irritation occurs.
Skin	Immediately flush with large quantities of water. Remove contaminated clothing under a safety shower. Obtain medical attention if irritation occurs.
Ingestion	If victim is conscious, give 2 to 4 glasses of water and induce vomiting by touching finger to back of throat. Obtain medical attention.
Inhalation	Remove victim from contaminated atmosphere. If breathing is labored, administer oxygen. If breathing is ceased, clear airway and start mouth resuscitation. If heart has stopped beating, external heart massage should be applied. Obtain medical attention.
Section 6: FIRE FIGHTING MEASURES	
Flammable Properties	Flash Point: Not flammable Method Used: N/A
Flammable Limits	LFL: N/A UFL: N/A
Extinguishing Media	As appropriate for combustibles involved in fire.
Unusual Fire and Explosion Hazards	Heating to dryness may cause the release of ammonia, hydrogen sulfide and oxides of sulfur. Ammonia (16-25%) and hydrogen sulfide may form flammable mixtures with air.
Special Firefighting Procedures and Precautions	Keep containers/storage vessels in fire area cooled with water spray. When heated, solutions of ammonium thiosulfate will evolve ammonia gas. NIOSH proved self-contained breathing apparatus should be available to fire fighters working in an area where containers of this product are stored.
Section 7: ENVIRONMENTAL PROTECTION	
Small Release	Confine and absorb small releases on sand earth or other inert absorbent. Dispose of in accordance with all governmental regulations.
Large Releases	Confine area to qualified personnel. Shut off release if safe to do so. Dike spill area to prevent runoff into sewers, drain or surface waterways (potential aquatic toxicity). Recover as much of the solution as possible. Flush residue to soil with large quantity of water, if permitted by applicable disposal regulations.

Waste Disposal	Consult Poole Chemical for assistance in disposing of excess materials.
Environmental Hazards	Avoid discharge of significant quantities of the product to surface waterways because of potential aquatic toxicity.
Section 8: HANDLING and STORAGE	
Handling	Avoid contact with eyes. Use only in a well ventilated area. Wash thoroughly after handling. Avoid prolonged or repeated breathing of vapors. Avoid prolonged or repeated contact with the skin.
Storage	Store in well ventilated areas. Do not store combustibles in the area of storage vessels. Keep away from any sources of heat or flame. Store tote and smaller containers out of direct sunlight at moderate temperatures.
Section 9: EXPOSURE CONTROLS, PERSONAL PROTECTION	
Respiratory Protection	None generally required. If conditions exist where mist may be generated, a mist respirator should be used.
Skin Protection	Neoprene rubber gloves and apron should be worn to prevent repeated or prolonged contact with the liquid. Wash contaminated clothing prior to reuse.
Eye Protection	Chemical goggles and a full face shield. DO NOT WEAR CONTACT LENSES.
Engineering Controls	Use adequate exhaust ventilation to prevent inhalation of product vapors.
Section 10: PHYSICAL and CHEMICAL PROPERTIES	
Appearance	Colorless to pale yellow to green solution.
Odor	May have a slight ammonia and/or organic odor.
Boiling Point	210 F (98.9 C) – 220 F (104.4 C)
Vapor Density	Not determined
Vapor Pressure	18 mm Hg @ 70 F (21.1 C)
Solubility in Water	Complete
Specific Gravity	1.32 – 1.35 (11.0 – 11.2 lbs/gal)
pH	7.0 – 8.5
Volatile	Not applicable

Section 11: STABILITY and REACTIVITY

Stability	This is a stable material
Hazardous Polymerization	Will not occur
Hazardous Decomposition Products	Heating this product will evolve ammonia. Heating to dryness will cause the production of ammonia, ammonium sulfate, sulfur and oxides of sulfur. Ammonia (16-25%) may form flammable mixtures with air.
Conditions and Materials to Avoid	<p>Contact with strong <u>oxidizers</u> such as nitrates, nitrites or chlorates may cause explosions or the release of ammonia, hydrogen sulfide or sulfur oxides. Contact with strong acids will cause the release of sulfur dioxide, a severe respiratory hazard. Contact with strong Alkalies will accelerate the evolution of ammonia. Avoid storage near oxidizers, strong acids or strong alkalies.</p> <p>Ammonium thiosulfate solution is not compatible with copper, zinc, or their alloys (i.e. bronze, brass, galvanized metals, etc.). These materials of construction should not be used in handling systems or storage containers for this product.</p>

Section 12: TRANSPORT INFORMATION

DOT Shipping Name	RQ ORM-E, NA 9188, Ammonium Thiosulfate solution
DOT Placard	NA
DOT Label(S)	NA
RQ (Reportable Quantity)	5,000 lbs

Section 13: OTHER REGULATORY CONTROLS

EPA, FDA, OSHA, USDA, CPSC, ETC
Not Applicable
The information contained herein is based on data which is believed to be accurate. However, no warranty of merchantability, fitness for use or any other warranties expressed or is to be implied concerning the accuracy of these data, the result to be obtained from the use of the materials, or the hazards connected with such use. This information is furnished on the condition that the person receiving it shall make his own determination as to the suitability of the material for his particular purpose and on the condition that he assume the risk of his use thereof.

SECTION III. PHYSICAL HAZARDS

FIRE AND EXPLOSION DATA

Flashpoint Not flammable
 Flammable Limits Not flammable

Ammonia can be a product of combustion. Flammable limits of ammonia gas in air (by volume) are Lower 16%, Upper 25%

Autoignition Temperature Not applicable
 Extinguishing Media Water

CAN solution will not burn. Fire can evaporate product to dryness leaving crystals of calcium nitrate and ammonium nitrate.

Special Firefighting Procedures

EVACUATE AREA. DO NOT CONFINE FIRE.
 Carefully apply large volumes of low pressure water to cool affected containers and to avoid eruptive scattering and spread of fire. Do not attempt to smother or add steam. Fight fire from greatest possible distance to protect from steam eruptions, toxic fumes, and possible explosion. Wear self-contained breathing apparatus.

Unusual Fire and Explosion Hazards

This product will not burn. However, high temperatures will evaporate water in the product and leave combustible ammonium nitrate crystals. Ammonium nitrate may explode if confined at elevated temperatures in the presence of an oxidizable substance. Toxic nitrogen oxide gases are released during combustion or upon heating ammonium nitrate crystals to decomposition (410°F or 210°C). Ammonium nitrate does not require atmospheric oxygen for combustion.

NFPA RATING (Scale 0-4): None established

REACTIVITY DATA

Stability Stable

Hazardous Polymerization Will not occur

Incompatibility Any combustible substance, organic materials, flammable liquids, charcoal, coke, cork, sawdust

Hazardous Decomposition Products At high temperatures nitrates will decompose releasing toxic gaseous nitrogen oxides.

Conditions to Avoid Avoid excessive heating. Prevent contamination with incompatible materials.

SYMPTOMS OF OVEREXPOSURE

Acute	Nausea, vertigo, vomiting, abdominal pain, rapid heartbeat, rapid breathing, coma and convulsion may result from ingestion of large amounts of nitrates.
Chronic	Small repeated doses may lead to weakness, general depression, headache, and mental impairment.
Notes to Physician	Ammonium nitrate has been used as a diuretic in oral doses of two to four grams. Average or large doses may cause nausea and vomiting. Acidosis may occur in presence of impaired renal function; also during prolonged use in persons with normal kidney function. Nitrite formation in intestines may cause methemoglobinemia.

POTENTIAL CARCINOGEN DATA (IARC, NTP, OSHA)

None found for CAN solution

FOR HEALTH EMERGENCIES CALL YOUR LOCAL POISON CENTER

SECTION V. FIRST AID PROCEDURES

Eyes	Flush thoroughly for 15 minutes with large amounts of clean water, occasionally lifting upper and lower lids. Seek medical attention.
Skin	Wash thoroughly with soap and water. Remove contaminated clothing and shoes, wash or clean before wearing again.
Inhalation	Remove to fresh air. If breathing has stopped, start artificial respiration. Seek medical attention if discomfort persists.
Ingestion	Seek medical help immediately. If immediate help is not available, and person is conscious, give a large amount of water to drink and make person vomit. Do not force an unconscious person to drink or vomit.

SECTION VI. SAFE HANDLING AND USE

Hygienic Practices - It is advisable to wash promptly if skin becomes contaminated, before eating or smoking, before using toilet facilities, and at the end of the work shift before leaving worksite.

Storage - Store in cool, well-ventilated areas. Avoid the formation of solid material in storage or handling system from evaporation or salting out.

Maintenance - Because of the ammonium nitrate content, use care when welding on equipment that has contained CAN solution. Thoroughly flush piping and pumps with water before welding. Weld with piping and equipment open.

SECTION VII. PERSONAL PROTECTION

Ventilation	None required under normal conditions.
Eyes	Appropriate goggles should be used where splashing may occur and when transferring liquid fertilizers.
Skin	Wear rubber gloves for transfer operations or where splashing may occur. If irritation occurs, impervious clothing and gloves should be worn.
Respiratory	None required under normal conditions.

SECTION VIII. TRANSPORTATION REQUIREMENTS

DOT Proper Shipping Name	Not applicable
DOT Hazard Class	This solution not regulated by DOT
Label/Placard Required	None
UN/NA No.	Not listed

FOR TRANSPORTATION EMERGENCIES CALL CHEMTREC 1-800-424-9300

SECTION IX. ENVIRONMENTAL PROTECTION

Procedures for Cleanup of Spills and Leaks

CAN solution is a plant food. However, large spills could possibly kill vegetation or cause illness in animals. Contamination of waterways could possibly cause fishkills. Prevent large quantities from contacting vegetation or waterways. Keep animals away from large spills. Dike spill area if possible to prevent spread. Precaution should be taken to prevent movement of nitrate to groundwater.

Reportable Quantity (CERCLA)	None established
(SARA Title III)	Ammonium nitrate solution is on the Section 313 list

Waste Disposal Method

If uncontaminated, recover and reuse as product. If contaminated with other materials, the nature and extent of contamination may require use of specialized disposal methods. Consult local, state, or federal regulatory agencies for acceptable disposal procedures and disposal locations.

EPA NATIONAL RESPONSE CENTER 1-800-424-8802

SECTION X. PREPARATION DATA

DATE PREPARED:	December 20, 1990
NAME OF RESPONSIBLE PARTY:	Robert F. Enos Western Farm Service, Inc. P.O. Box 1168 Fresno, California 93715 (209) 436-0450 (209) 661-6139

NOTICE

All information appearing in this document is based on data provided by third party sources and is compiled to comply with the Federal Hazard Communication Standard and the California Hazardous Substances Information and Training Act. The information is believed to be accurate as of the preparation date but is not warranted as being the final authority in the use of this product. This information does not purport to be legal or medical advice.

Western Farm Service, Inc., makes no warranty of merchantability, fitness for any purpose or otherwise, express or implied, concerning this product or its uses which extend beyond the use of the product under normal conditions in accord with the statements made on the label.

Page 6 of 6

WESTERN FARM SERVICE LIQUID FERTILIZERS

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Helena Chemical Company
 PH: 901-761-0050
 CHEMTREC: 800-424-9300

07-MAY-2003 08:58:16
 Page 1 Of 4

Material Safety Data Sheet

Effective Date: 28-MAY-2001
 Product: HELENA FERTILIZER BLENDS

I. IDENTIFICATION 0-0-13

Chemical Name: INORGANIC METAL SALTS AND INORGANIC FERT
 Chemical Family: INORGANIC FERTILIZER
 Formula: FORMULATED MIXTURE, NOT APPLICABLE.
 Synonyms: NONE
 CAS Number: FORMULATED MIXTURE, NOT APPLICABLE.
 EPA Number: NONE REQUIRED

II. PHYSICAL DATA

Boiling Point: NOT APPLICABLE
 Freezing Point: NOT APPLICABLE
 Spec Gravity: 0.70-0.80 GMS/CC
 Vapor Pressure: NOT APPLICABLE
 Vapor Density: NOT APPLICABLE
 Solubility: NOT APPLICABLE
 Volatiles: NOT APPLICABLE
 Evaporation: NA
 Melting Point: >130 DEGREES C.
 Appearance: GRANULAR SOLID NO DETECTABLE ODOR.

III. INGREDIENTS

Material	CAS Number	Percent TLV	Hazard
TYPICAL COMPOSITION: TOTAL NITROGEN (N), 4.00% - 26.00%		10 MG/M3	SKIN & EYE IRRITANT
AVAILABLE PHOSPHORIC ACID (P2O5), 0.00% - 14.00%		10 MG/M3	SKIN & EYE IRRITANT
SOLUBLE POTASH (K2O), 7.00% - 23.00%		10 MG/M3	SKIN & EYE IRRITANT
INERT INGREDIENTS, 61.00% - 85.00%		15 MG/M3	NUISANCE DUST

IV. FIRE AND EXPLOSION HAZARD

Flash Point: NON-COMBUSTIBLE
 Autoignition Temp: NON-COMBUSTIBLE
 Flammable Limit: NOT APPLICABLE
 Extinguishing Media: NON-COMBUSTIBLE SOLID - USE EXTINGUISHING MEDIA FOR UNDERLYING CAUSE OF FIRE.
 Special Fire Fight Proc: USE POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS WITH FULL PROTECTIVE CLOTHING.
 Fire and Expl Hazard: DECOMPOSES AT ELEVATED TEMPERATURES TO PRODUCE

Helena Chemical Company
 PH: 901-761-0050
 CHEMTREC: 800-424-9300

07-MAY-2003 08:58:16
 Page 2 Of 4

Material Safety Data Sheet

Effective Date: 28-MAY-2001
 Product: HELENA FERTILIZER BLENDS

 TOXIC FUMES OF AMMONIA AND SULFUR OXIDES.

V. HEALTH HAZARD

 Carcinogen Information: NOT LISTED BY NTP, IARC OR OSHA

ACUTE EFFECTS OF OVER EXPOSURE

 Swallowing: IF SWALLOWED, IRRITATION MAY DEVELOP IN THE MOUTH, ESOPHAGUS, STOMACH, ETC.
 Skin Absorption: NO TOXIC EFFECTS EXPECTED DUE TO SKIN ABSORPTION BASED ON CURRENTLY KNOWN INFORMATION.
 Inhalation: DUST INHALATION MAY IRRITATE NOSE, THROAT AND LUNGS.
 Skin contact: IRRITATION MAY RESULT FROM PROLONGED SKIN CONTACT.
 Eye Contact: CONTACT WITH DUST OR MIST CAN CAUSE EYE IRRITATION.
 Chronic Effects: NONE CURRENTLY KNOWN.
 Other Hazard: NONE CURRENTLY KNOWN.

EMERGENCY AND FIRST AID PROCEDURES

 Swallowing: IF CONSCIOUS, DRINK 2 TO 4 GLASSES OF WATER AND INDUCE VOMITING BY TOUCHING BACK OF THROAT WITH FINGER.
 Skin: WASH PROMPTLY WITH SOAP AND WATER. REMOVE ANY CONTAMINATED CLOTHING AND WASH BEFORE REUSE.
 Inhalation: MOVE TO FRESH AIR. IF BREATHING IS DIFFICULT, OBTAIN MEDICAL ATTENTION IMMEDIATELY.
 Eyes: FLUSH EYES WITH WATER FOR 15 MINUTES, HOLDING EYELIDS OPEN. IF IRRITATION PERSISTS, CONSULT A PHYSICIAN.
 Notes to Physician: IN THE EVENT OF AN ADVERSE RESPONSE, TREATMENT SHOULD BE DIRECTED TOWARD CONTROL OF THE SYMPTOMS AND THE CLINICAL CONDITION OF THE PATIENT.

VII. REACTIVITY

 Stability: Stable
 Conditions to Avoid: EXCESSIVE HEAT.
 Polymerization: Will Not Occur
 Conditions to Avoid: NONE CURRENTLY KNOWN.
 Incompatibility material: OXIDIZERS - E.G., POTASSIUM SALTS, NITRITE, NITRATE, CHLORATE, CHLORINE & HYPOCHLORITE

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PH: 901-761-0050
CHEMTRAC: 800-424-9300

07-MAY-2003 08:58:16
Page 3 Of 4

Material Safety Data Sheet

Effective Date: 28-MAY-2001

Product: HELONA FERTILIZER BLENDS

BLEACHES.

Hazardous Combustion: AMMONIA AND SULFUR TRIOXIDE AND SULFUR DIOXIDE
GASES UNDER FIRE CONDITIONS.

VII. SPILL OR LEAK PROCEDURES.

Spill or Leak Proc: IF UNCONTAMINATED, SWEEP UP OR COLLECT, AND
REUSE AS PRODUCT. IF CONTAMINATED WITH OTHER
MATERIAL PLACE IN A RECOVERY DRUM FOR PROPER
DISPOSAL.

Waste Disposal Method: THIS MATERIAL MUST BE DISPOSED OF ACCORDING TO
FEDERAL, STATE, OR LOCAL PROCEDURES UNDER THE
RESOURCE CONSERVATION AND RECOVERY ACT.

VIII. SPECIAL PROTECTION INFORMATION

Respiration: IF DUST CONCENTRATIONS EXCEED RECOMMENDED
PERMISSIBLE EXPOSURE LIMITS, USE NIOSH-APPROVED
DUST RESPIRATOR.

Ventilation: LOCAL EXHAUST NORMALLY SUFFICIENT.

Gloves: IMPERVIOUS

Eyes: CHEMICAL WORKERS GOGGLES.

Other: EYE WASH STATION, IMPERVIOUS APRON AND
FOOTWEAR.

IX. SPECIAL PRECAUTIONS

Special precaution: KEEP OUT OF REACH OF CHILDREN. DO NOT STORE
WITH FOOD, FEED, OR OTHER MATERIAL TO BE USED
OR CONSUMED BY HUMANS OR ANIMALS. DO NOT
CONTAMINATE WATER SUPPLIES, LAKES, STREAMS, OR
PONDS. PROTECT AGAINST PHYSICAL DAMAGE. STORE
IN COOL, DRY PLACE, SEPARATE FROM COMBUSTIBLE,
ORGANIC OR OTHER READILY OXIDIZABLE MATERIALS.
IMMEDIATELY REMOVE AND DISPOSE OF ANY SPILLED
MATERIAL.

Other precaution: AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
AVOID BREATHING DUST.
KEEP BAGS CLOSED AND AVOID ROUGH HANDLING.
FOLLOW GOOD PERSONAL HYGTENE AND HOUSEKEEPING
PRACTICES.

Helena Chemical Company
PH: 901-761-0050
CHEMTREC: 800-424-9300

07-MAY-2003 08:58:16
Page 4 Of 4

Material Safety Data Sheet

Effective Date: 28-MAY-2001
Product: HELENA FERTILIZER BLENDS

X. SHIPPING INFORMATION

Shipping name: NOT REGULATED BY DOT
Hazard Class: NONE
Identification No: NONE
Labels Required: NONE
Placarding: NONE
Freight Class: COMPOUND, FERTILIZER, (MANUFACTURED FERTILIZER), DRY, NOISE
Chemical Name: Equivalent R.Q.
NOT APPLICABLE NOT APPLICABLE

XI. GENERAL PRODUCT INFORMATION

National Fire Protection Association Rating:
(Rating level: 4-Extreme, 3-High, 2-Moderate, 1-Slight, 0-Minimum)

Health: 1 Fire: 0 Reactivity: 0

S.A.R.A. Title III Hazard Classification: (Yes/No)

Immediate (Acute) Health: Y Delayed (Chronic) Health: N
Sudden Release of pressure: N Fire: N
Reactive: N

Mail inquiries to: 225 Schilling Blvd., Suite 300 Collierville, TN 38017
Helena Chemical Company believes that the data contained herein is factual.
This data is not to be taken as a warranty or representation of legal
responsibility. It is offered solely for your consideration, investigation
and verification.

Material Safety Data Sheet

Effective Date: 22-MAR-2001
Product: HYDRA-HUME AN

I. IDENTIFICATION

Chemical Name: Ascophyllum Nodosum/Humic Acids Extract
Chemical Family: Not applicable, formulated mixture.
Formula: Not applicable, formulated mixture.
Synonyms: None
CAS Number: See Ingredient Statement, Section III.
EPA Number: None required.

II. PHYSICAL DATA

Boiling Point: >100 Degrees C.
Freezing Point: <20 Degrees F.
Spec Gravity: 1.019 gms/CC
Vapor Pressure: 570 mm/HG
Vapor Density: Not determined
Solubility: 99%
Volatiles: 0.50%
Evaporation: Not applicable
Melting Point: Not applicable
Appearance: Dark brown liquid, low odor.

III. INGREDIENTS

Material	CAS Number	Percent	TLV	Hazard
Proprietary Blend of Ascophyllum Nosodum & Phenolic Hydrocarbons; Humic Acids Typical Composition: Humic Acid - 6.00%; Seaweed Extract - 10.40%		100.00	15 MG/M3	Skin & eye irritant

IV. FIRE AND EXPLOSION HAZARD

Flash Point: N/A - Aqueous Solution
Autoignition Temp: Not applicable
Flammable Limit: Not applicable
Extinguishing Media: Non-combustible liquid. Use extinguishing media
for underlying cause of fire.
Special Fire Fight Proc: Wear self-contained breathing apparatus and
full protective equipment. Use water spray to
keep fire-exposed containers cool.
Fire and Expl Hazard: Product may produce toxic fumes under fire
conditions.

Material Safety Data Sheet

Effective Date: 22-MAR-2001
Product: HYDRA-HUME AN.

V. HEALTH HAZARD

Carcinogen Information: None currently known.

ACUTE EFFECTS OF OVER EXPOSURE

Swallowing: Possible stomach disorders if taken orally. No Oral LD50 has been established.
Skin Absorption: None currently known. No Dermal LD50 has been established.
Inhalation: If in mist form, may cause slight irritation. No Inhalation LC50 has been established.
Skin contact: Possible skin reddening if not washed off of affected area.
Eye Contact: This product may cause eye irritation.
Chronic Effects: None currently known.
Other Hazard: None currently known.

EMERGENCY AND FIRST AID PROCEDURES

Swallowing: If conscious, give milk or water to drink and induce vomiting. Obtain medical attention if irritation develops.
Skin: Wash skin thoroughly with soap and water. Obtain medical attention if irritation develops.
Inhalation: Move to fresh air. Obtain medical attention if irritation develops.
Eyes: Flush eyes with water for 15 minutes, holding eyelids open. Obtain medical attention if irritation develops.
Notes to Physician: In the event of an adverse response, treatment should be directed toward control of the symptoms and the clinical condition of the patient.

VI. REACTIVITY

Stability: Stable
Conditions to Avoid: None currently known.
Polymerization: Will Not Occur
Conditions to Avoid: None currently known.
Incompatibility material: Neutralization reaction will occur if exposed to

Material Safety Data Sheet

Effective Date: 22-MAR-2001
Product: HYDRA-HUME AN

acidic materials.
Hazardous Combustion: At extreme temperatures, CO and oxidation product may be evolved.

VI. SPILL OR LEAK PROCEDURES

Spill or Leak Proc: Contain product. Reuse material if uncontaminated. If contaminated, absorb material with an absorbent, such as clay or sand, and place in suitable container for proper disposal. Do not contaminate water supplies.
Waste Disposal Method: This material must be disposed of according to Federal, State or Local procedures under the Resource Conservation and Recovery Act.

VIII. SPECIAL PROTECTION INFORMATION

Respiration: None needed under normal conditions.
Ventilation: Local exhaust sufficient.
Gloves: Rubber or plastic
Eyes: Chemical goggles
Other: Eyewash, shower, impervious apron and footwear.

IX. SPECIAL PRECAUTIONS

Special precaution: Keep out of reach of children. Do not store with food, feed, or other material to be used or consumed by humans or animals. Do not contaminate water supplies, lakes, streams or ponds.
Other precaution: This product does not contain any chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Material Safety Data Sheet

Effective Date: 22-MAR-2001
Product: HYDRA-HUME AN

X. SHIPPING INFORMATION

Shipping name: Not regulated by DOT, IATA (air), or IMDG
(water).

Hazard Class: None
Identification No: None
Labels Required: None required
Placarding: None required
Freight Class: Compound, Fertilizer (Manufactured Fertilizer),
Liquid, NOIBN

Chemical Name

Equivalent R.Q.

Not applicable

Not applicable

XI. GENERAL PRODUCT INFORMATION

National Fire Protection Association Rating:
(Rating level: 4-Extreme, 3-High, 2-Moderate, 1-Slight, 0-Minimum)

Health: 1

Fire: 0

Reactivity: 0

S.A.R.A. Title III Hazard Classification: (Yes/No)

Immediate (Acute) Health: Y
Sudden Release of pressure: N
Reactive: N

Delayed (Chronic) Health: N
Fire: N

Helena Chemical Company believes that the data contained herein
is factual. This data is not to be taken as a warranty or
representation of legal responsibility. It is offered solely
for your consideration, investigation and verification.

MATERIAL SAFETY DATA SHEET



Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

Effective Date: 5-Mar-07
Product Code: 85456
MSDS: 000405

TELONE* II SOIL FUMIGANT

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Telone* II Soil Fumigant

COMPANY IDENTIFICATION:

Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268-1189

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Colorless to straw colored liquid. Pungent, sweet, penetrating odor. Highly toxic and irritating fumes are released in fire situations. May cause eye irritation or corneal injury. May be absorbed through the skin and causes skin irritation. Potential skin sensitizer. Toxic to aquatic organisms and avian.

EMERGENCY PHONE NUMBER: 800-992-5994

2. COMPOSITION/INFORMATION ON INGREDIENTS:

Component	CAS Number	W/W%
1,3-Dichloropropylene	542-75-6	97.5
CIS Isomer	10061-01-5	
TRANS Isomer	10061-02-6	
Balance		2.5

4. FIRST AID:

EYES: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, and then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.

SKIN: Immediately flush skin with plenty of water for at least 15 minutes which removing contaminated clothing and shoes. Obtain medical attention without delay. Wash clothing before reuse. Properly dispose of contaminated leather items, such as shoes, belts, and watchbands.

INGESTION: Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

INHALATION: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

NOTE TO PHYSICIAN: Because rapid absorption may occur through lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Animal data indicates that this material is a potential skin sensitizer. However, skin sensitization has not been encountered among employees involved in the manufacture of this material.

5. FIRE FIGHTING MEASURES:

FLASH POINT: 81.5°F (27.5°C)
METHOD USED: TCC

FLAMMABLE LIMITS

LFL: 5.5% @ 80°C (176°F)
UFL: 14.5% @ 80°C (176°F)

EXTINGUISHING MEDIA: Water fog, foam, CO₂, dry chemical. For large-scale fires, straight or direct water streams may be ineffective to extinguish fire, but copious fine water spray will help control situation by its cooling action. General purpose foams are preferred if available. Alcohol resistant foams may function also. Water fog, applied gently, may be used as a blanket for fire extinguishing. If possible, contain fire run-off water.

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MATERIAL SAFETY DATA SHEET



Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

Effective Date: 5-Mar-07
Product Code: 85456
MSDS: 000405

TELONE* II SOIL FUMIGANT

FIRE & EXPLOSION HAZARDS: Keep unnecessary people away; isolate hazard area and deny unnecessary entry. Highly toxic and irritating fumes are released in fire situations. Keep product vapors away from possible ignition sources. Vapors can form flammable mixtures at ordinary temperatures. Static electricity may accumulate and create a fire ignition. Vapors are heavier than air and may travel a considerable distance where they may linger and/or find an ignition source and flash back. Stay upwind; keep out of low areas.

FIRE-FIGHTING EQUIPMENT: Use NIOSH or MSHA approved positive-pressure, self-contained breathing apparatus and special protective clothing, including heavy neoprene or rubber boots and neoprene gloves.

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS/LEAKS: (FOR FURTHER INFORMATION ON SPILLS, LEAKS, AND DISPOSAL, REFER TO EMERGENCY PROCEDURES IN THE USER'S GUIDE FOR THIS PRODUCT).

PERSONAL PROTECTIVE EQUIPMENT FOR SMALL SPILLS:

For small spills outdoors or in well ventilated areas, wear a NIOSH approved half-face or full-face tight fitting respirator or loose fitting powered air-purifying respirator equipped with organic vapor cartridges (MSHA/NIOSH approval TC-23°C) or canister approved for pesticides (MSHA/NIOSH approval TC-14G). Chemical goggles must be worn when using a half-face respirator. In addition to respiratory protection, wear coveralls; chemical resistant gloves such as barrier laminate (EVAL) or viton; chemical resistant footwear and socks; chemical resistant headgear for overhead exposure; and chemical apron.

PERSONAL PROTECTIVE EQUIPMENT FOR LARGE SPILLS:

For clean up of large spills, or small spills in a confined area, wear a NIOSH positive-pressure, atmosphere-supplying respirator (MSHA/NIOSH approval number prefix TC-19°C or TC-13°F). In addition, body protection providing gas-tight protection is required to prevent possible skin effects (read product label).

CLEAN-UP FOR SMALL SPILLS:

If it can be done safely, invert or reposition the leaking container of product so that the area with the leak is up and the flow is reduced. If possible, put the container into an overpak. Cover or confine the leakage with an absorbent such as diatomaceous earth, clay, sand, or other non-combustible absorptive material. Collect the spent absorbent material in a disposal drum. If the spill is on the ground, dig up enough of the soil to eliminate the contamination and place the soil in a disposal drum.

CLEAN UP FOR LARGE SPILLS:

Contact Dow AgroSciences at 800-992-5994.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

HANDLING: Keep out of reach of children. Hazardous liquid and vapor. May be fatal if swallowed. Causes substantial but temporary eye injury. May be fatal if absorbed through the skin. Causes skin irritation, and, if confined, skin burns. May cause allergic skin reaction. May be fatal if inhaled. May cause lung, liver, and kidney damage and respiratory system prolonged contact. Do not swallow any of this product. Do not get in eyes, on skin, or on clothing. Do not breathe vapor. Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove personal protective equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Follow manufacturer's instructions for cleaning/maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Wash PPE after each days use. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

STORAGE: Store in tightly closed original container in a cool place away from dwellings. Do not allow contamination of seeds, plants, fertilizers or other pesticide chemicals. Do not contaminate food, feedstuffs, drugs or domestic water supplies.

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MATERIAL SAFETY DATA SHEET



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Dow AgroSciences LLC
Indianapolis, IN 46268

Effective Date: 5-Mar-07
Product Code: 85456
MSDS: 000405

TELONE* II SOIL FUMIGANT

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where a potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINE: 1,3-Dichloropropene: ACGIH TLV is 1 ppm, Skin.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guideline. Lethal concentrations may exist in areas with poor ventilation.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, & PACKAGING WORKERS:

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required use an approved self-contained breathing apparatus or positive pressure airline with auxiliary self-contained air supply. For emergency and other conditions where the exposure guideline may be exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure airline with auxiliary self-contained breathing apparatus or positive pressure airline with auxiliary self-contained air supply. The following should be effective types of air-purifying respirators: organic vapor cartridge.

SKIN PROTECTION: Use protective clothing chemically resistant to this material. Selection of specific items such as faceshield, gloves, boots, and apron or full-body suit will depend on operation. Safety shower should be located in immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items, which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

EYE/FACE PROTECTION: Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator.

APPLICATORS AND ALL OTHER HANDLERS: Refer to the product label for personal protective clothing and equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES:

BOILING POINT: Approximately 220°F (104°C)

VAPOR PRESSURE: 28 mm Hg at 25°C (77°F)

VAPOR DENSITY: Not applicable

SOLUBILITY IN WATER: Approximately 0.1%

SPECIFIC GRAVITY: 1.211 at 20°C (68°F)

APPEARANCE: Colorless to straw colored liquid

ODOR: Pungent, sweet, penetrating odor

10. STABILITY AND REACTIVITY:

STABILITY: (CONDITIONS TO AVOID) May form explosive mixtures with air when confined.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID)

Corrosive to some metals. Do not use containers or equipment containing aluminum, magnesium, zinc, cadmium, or their alloys. Avoid strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen chloride and other toxic, irritating gases may be formed if product is involved in fire.

HAZARDOUS POLYMERIZATION: Not known to occur.

11. TOXICOLOGICAL INFORMATION:

POTENTIAL HEALTH EFFECTS: This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.

EYE: May cause severe eye irritation. May cause slight corneal injury. Vapor may cause lacrimation (tears). Vapor may cause eye irritation experienced as mild discomfort and redness.

SKIN: Repeated contact may cause skin burns. Symptoms may include pain, severe local redness, swelling and tissue damage. Prolonged contact may cause moderate skin irritation with local redness. Animal data indicate that 1,3-dichloropropene is a potential skin sensitizer. The LD₅₀ for skin absorption in rabbits is 333 mg/kg.

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MATERIAL SAFETY DATA SHEET



Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

Effective Date: 5-Mar-07
Product Code: 85456
MSDS: 000405

TELONE* II SOIL FUMIGANT

INGESTION: Moderate toxicity if swallowed. The oral LD₅₀ for rats is 300 mg/kg (males) and 224 mg/kg (females). Small amounts swallowed incidentally as a result of normal handling operations is not likely to cause injury; however, swallowing larger amounts may cause serious injury, even death. Aspiration into the lungs may occur during ingestion or vomiting, resulting in rapid absorption and injury to other body systems.

INHALATION: Easily attainable vapor concentrations may cause serious adverse effects, even death. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. Vapor concentrations are attainable which may be fatal with single exposure. The vapor LC₅₀ for rats is 904 ppm for 4 hours.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: In animals, effects have been reported on the following organs: bladder, kidney, nasal tissue, liver, lungs, and gastrointestinal tract.

CANCER INFORMATION: Has been shown to cause cancer in laboratory animals by the oral route. Inhalation exposure resulted in an increase in the normal occurrence of benign lung tumors in male mice.

TERATOLOGY (BIRTH DEFECTS): Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

REPRODUCTIVE EFFECTS: In animal studies, did not interfere with reproduction.

MUTAGENICITY: In-vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL FATE:

MOVEMENT & PARTITIONING:

Based largely or completely on information for a similar material.

Potential for mobility in soil is very high (Koc between 0 and 50).

Bioconcentration potential is low (BCF is <100 or Log Pow <3).

DEGRADATION & PERSISTENCE:

Based largely or completely on information for a similar material.

1,3-Dichloropropene has a stratospheric ozone depletion potential (ODP) of 0.002, relative to CFC 12 (ODP=1). Biodegradation may occur under aerobic conditions (in the presence of oxygen).

ECOTOXICOLOGY:

Material is highly toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is between 0.1 and 1 mg/L in most sensitive species tested).

Material is moderately toxic to birds on an acute basis (LD₅₀ is between 51 and 500 mg/kg).

Material is practically non-toxic to birds on a dietary basis (LC₅₀ is >5000 ppm).

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities.

This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

If the material as supplied becomes a waste, follow all applicable regional, national and local laws and regulations.

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Indianapolis, IN 46268

Effective Date: 5-Mar-07
Product Code: 85456
MSDS: 000405

TELONE* II SOIL FUMIGANT

14. TRANSPORT INFORMATION:

U.S. DEPARTMENT OF TRANSPORTATION (DOT) INFORMATION:

FOR SAMPLE SHIPMENTS BY AIR:

UN2903/PESTICIDES, LIQUID, TOXIC, FLAMMABLE,
N.O.S.(1,3-DICHLOROPROPENE)/6.1(3)/PGII
Authorization: DOT-9168; Packing Inst: 609

FOR 1 GALLON CONTAINERS SHIPPED BY LAND:

UN2903/PESTICIDES, LIQUID, TOXIC, FLAMMABLE,
N.O.S.(1,3-DICHLOROPROPENE)/6.1(3)/PGII

FOR QUANTITIES OF 102 POUNDS OR MORE SHIPPED BY LAND OR WATER:

UN2903PESTICIDES, LIQUID, TOXIC, FLAMMABLE,
N.O.S.(1,3-DICHLOROPROPENE)/6.1(3)/PGII/RQ(1,3-DICHLOROPROPENE)

15. REGULATORY INFORMATION:

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

U.S. REGULATIONS

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

<u>CHEMICAL NAME</u>	<u>CAS NUMBER</u>	<u>CONCENTRATION</u>
1,3-Dichloropropene	542-75-6	97.5%
TRANS-1,3-D	10061-02-6	45.0%

NOTE: CAS# 000542-75-6 includes both the cis and trans isomers of 1,3-dichloropropene (also known as 1,3-dichloropropylene), and it is on the SARA 313 list. The CAS number for the trans isomer, 010061-02-6, is also on the SARA 313 list, but the CAS# for the cis isomer, 010061-01-5, is not on the SARA 313 list.

CONSENT ORDER FOR PMN (UNITED STATES)

In the United States, a component of this material, cis-1,3-dichloropropene (DR-0019-3180), was reviewed by the Environmental Protection Agency under PMN 88-608. There was no resulting consent order. However, the EPA is concerned that, based on an analogous chemical structure, this PMN material may cause oncogenicity, mutagenicity, neurotoxicity, and developmental toxicity and may present an unreasonable risk to unprotected workers. The EPA strongly recommends that, to mitigate inhalation exposure, workers should wear a NIOSH-approved respirator and, to mitigate dermal exposure, should wear adequate protective clothing which covers any exposed parts of the body, impervious gloves, and chemical safety goggles or equivalent.

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MSDS: 000405

TELONE* II SOIL FUMIGANT

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard
A delayed health hazard
A fire hazard

CALIFORNIA PROPOSITION 65: The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains a chemical(s) known to the State of California to cause cancer. The chemical is 1,3-Dichloropropene (CAS # 000542-75-6)

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

<u>CHEMICAL NAME</u>	<u>CAS NUMBER</u>	<u>LIST</u>
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1,3-Dichloropropene	542-75-6	NJ3 NJ2 NJ1 PA3 PA2 PA1
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NJ1=New Jersey Special Health Hazard Substance (present at > or = to 0.1%).

NJ2=New Jersey Environmental Hazardous Substance (present at > or = to 1.0%).

NJ3=New Jersey Workplace Hazardous Substance (present at > or = to 1.0%).

PA1=Pennsylvania Hazardous Substance (present > or = to 1.0%).

PA2=Pennsylvania Special Hazardous Substance (present at > or = to 0.01%).

PA3=Pennsylvania Environmental Hazardous Substance (present at > or = to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

<u>Category</u>	<u>Rating</u>
Health	3
Flammability	3
Reactivity	0

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): This product contains the following substance(s) listed as "Hazardous Substances" under CERCLA, which may require reporting of releases:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>RQ</u>	<u>% in Product</u>
1,3-Dichloropropene	542-75-6	100 lbs.	97.5%

16. OTHER INFORMATION:

MSDS STATUS: Revised Sections: 2,3,4,8,11,12
Reference: DR-0166-7465
Replaces MSDS dated: 3/30/04
Document Code: D03-018-009
Replaces Document Code: D03-018-008

The Information Herein Is Given In Good Faith, But No Warranty, Express or Implied, Is Made. Consult Dow AgroSciences for Further Information.

*Trademark of Dow AgroSciences LLC

MATERIAL SAFETY DATA SHEET



Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

Effective Date: 16-Mar-07
Product Code: 46005
MSDS: 005615

TELONE* E.C. SOIL FUMIGANT

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Telone* E.C. Soil Fumigant

COMPANY IDENTIFICATION:

Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268-1189

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Light to straw-amber colored liquid with a pungent odor. May cause severe eye irritation with corneal injury. May cause skin irritation, even a burn. Toxic to aquatic organisms. Regulated under PMN 88-608.

EMERGENCY PHONE NUMBER: 800-992-5994

3. COMPOSITION/INFORMATION ON INGREDIENTS:

Component	CAS Number	W/W%
1,3-Dichloropropylene	542-75-6	93.6
CIS Isomer	10061-01-5	
TRANS Isomer	10061-02-6	
Balance		6.4

4. FIRST AID:

EYE: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist.

SKIN: Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly.

INGESTION: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the 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 an emergency responder or ambulance, and then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc.). If breathing is difficult, oxygen should be administered by qualified personnel.

NOTE TO PHYSICIAN: Because rapid absorption may occur through the lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Maintain adequate ventilation and oxygenation of the patient. Excessive exposure may aggravate pre-existing lung, liver, and kidney disease. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the MSDS, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIRE FIGHTING MEASURES:

FLASH POINT: 83°F (28°C)
METHOD USED: TCC

FLAMMABLE LIMITS: LFL: 5.3% @ 80°C
UFL: 14.5% @ 80°C

EXTINGUISHING MEDIA: Water spray, foam, alcohol foam, CO₂, dry chemical.

FIRE AND EXPLOSION HAZARDS: Toxic, irritating vapors may occur under fire conditions. Keep vapors away from possible ignition sources.

FIRE-FIGHTING EQUIPMENT: Use positive-pressure, self-contained breathing apparatus and special protective clothing, including heavy neoprene or rubber boots and neoprene gloves.

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TELONE* E.C. SOIL FUMIGANT

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS/LEAKS: If it can be done safely, invert or reposition the leaking container of Telone EC so that the area with the leak is up and the flow is reduced. If possible, put the container into an overpak. Cover or confine the leakage with an absorbent such as diatomaceous earth, clay, sand, or other non-combustible absorbent material. Collect the spent absorbent material in a disposal drum. If the spill is on the ground, dig up enough of the soil to eliminate the contamination and place the soil in a disposal drum. Report large spills to Dow AgroSciences at 800-992-5994.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

HANDLING: Keep out of reach of children. The use of this product may be hazardous to your health. This product contains 1,3-dichloropropene, which has been determined to cause tumors in laboratory animals. Risks can be reduced by exactly following directions for use, precautionary statements, and by wearing the personal protective equipment specified on the label.

STORAGE: Store in tightly closed original container in a cool place away from dwellings. Do not allow contamination of seeds, plants, fertilizers or other pesticide chemicals. Do not contaminate food, feedstuffs, drugs, or domestic water supplies.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where a potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINES:

1,3-Dichloropropene: ACGIH TLV is 1 ppm, Skin, A3.

A 'skin' notation following the exposure guideline refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapors or by direct skin contact. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Lethal concentrations may exist in areas with poor ventilation.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

EYE/FACE PROTECTION: Use chemical goggles. Eye wash fountain should be located in the immediate work area. If exposure causes eye discomfort, use a NIOSH approved full-face respirator.

SKIN PROTECTION: Use protective clothing chemically resistant to this material. Selection of specific items such as faceshield, gloves, boots, apron, or full body suit will depend on operation. Safety shower should be located in the immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse. Items, which cannot be decontaminated, such as shoes, belts, and watchbands, should be removed and disposed of properly.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required use a NIOSH approved self-contained breathing apparatus or positive pressure airline with auxiliary self-contained air supply. For emergency and conditions where the exposure guideline may be exceeded, use a NIOSH approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. In confined or poorly ventilated areas, use a NIOSH approved self-contained breathing apparatus or positive pressure airline with auxiliary self-contained air supply.

APPLICATORS AND ALL OTHER HANDLERS: Refer to the product label for personal protective clothing and equipment.

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MATERIAL SAFETY DATA SHEET



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Indianapolis, IN 46268

Effective Date: 16-Mar-07
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MSDS: 005615

TELONE* E.C. SOIL FUMIGANT

9. PHYSICAL AND CHEMICAL PROPERTIES:

BOILING POINT: Approximately 220°F, 104°C
SOLUBILITY IN WATER: Approximately 0.1%
SPECIFIC GRAVITY: 1.20 @ 25°C, 77°F
VAPOR PRESSURE: 28 mm/Hg @ 20°C, 68°F
APPEARANCE: Light to straw-amber colored liquid
ODOR: Pungent, sweet penetrating odor

10. STABILITY AND REACTIVITY:

STABILITY (CONDITIONS TO AVOID): May form explosive mixtures with air when confined.

INCOMPATIBILITY (SPECIFIC MATERIALS TO AVOID): Corrosive to some metals. Do not use containers or equipment containing aluminum, magnesium, zinc, cadmium, or their alloys. Avoid strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen chloride and other toxic, irritating gases may be formed if product is involved in fire.

HAZARDOUS POLYMERIZATION: Not known to occur.

11. TOXICOLOGICAL INFORMATION:

POTENTIAL HEALTH EFFECTS: This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.

EYE: May cause severe eye irritation with corneal injury, which may result in permanent impairment of vision, even blindness. Chemical burns may occur. Vapor may cause lacrimation (tears). Vapor may cause eye irritation experienced as mild discomfort and redness.

SKIN: Brief contact may cause skin irritation with local redness. Prolonged or repeated exposure may cause skin irritation, even a burn. Prolonged or widespread skin contact may result in absorption of harmful amounts. The LD₅₀ for skin absorption in rabbits for similar material is 333 mg/kg. Animal data indicate that 1,3-Dichloropropene is a potential skin sensitizer.

INGESTION: Moderate toxicity if swallowed. Based on information for a similar material, the oral LD₅₀ for rats is expected to be >224 mg/kg. Small amounts swallowed incidental to normal handling operations is not likely to cause injury; however, swallowing larger amounts may cause serious injury, even death. Aspiration into the lungs may occur during ingestion or vomiting, resulting in rapid absorption and injury to other body systems.

INHALATION: Easily attainable vapor concentrations may cause serious adverse effects, even death. Excessive exposure may cause headache, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects, including death. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Effects have been reported on the following organs: bladder, blood, kidney, liver, respiratory tract and stomach.

CANCER INFORMATION: 1,3-Dichloropropene is listed as a potential carcinogen for hazard communication purposes under OSHA Standard 29 CFR 1910.1200. 1,3-Dichloropropene has been shown to cause cancer in laboratory animals by the oral route. Inhalation exposure resulted in an increase in the normal occurrence of benign lung tumors in male mice.

TERATOLOGY (BIRTH DEFECTS): 1,3-Dichloropropene did not cause birth defects or any other fetal effects in laboratory animals.

REPRODUCTIVE EFFECTS: 1,3-Dichloropropene did not interfere with reproduction in animal studies.

MUTAGENICITY (EFFECTS ON GENETIC MATERIAL): For the active ingredient, 1,3-Dichloropropene, in-vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

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TELONE* E.C. SOIL FUMIGANT

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL FATE:

MOVEMENT & PARTITIONING:

Based largely or completely on data for major component(s).

- Potential for mobility in soil is very high (Koc is between 0 and 50).
- Bioconcentration potential is low (BCF <100 or Log Pow <3).

DEGRADATION & PERSISTENCE:

Based largely or completely on data for a similar material.

- Degradation is expected in the atmospheric environment within days to weeks.

ECOTOXICOLOGY:

Based largely or completely on data for a similar material.

- Material is highly toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is between 0.1 and 1 mg/L in the most sensitive species tested).

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities.

This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

If the material as supplied becomes a waste, follow all applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION:

U.S. DEPARTMENT OF TRANSPORTATION (DOT) INFORMATION:

FOR ALL PACKAGE SIZES: DO NOT SHIP BY AIR

For package sizes shipped by land or water:

PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.
(1,3-DICHLOROPROPENE)/6.1(3)/UN2903/PGII/RQ
(1,3-DICHLOROPROPENE).

15. REGULATORY INFORMATION:

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

U.S. REGULATIONS

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
1,3-Dichloropropene	542-75-6	93.6%
TRANS-1,3-D	10061-02-6	~43.0%

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

- An immediate health hazard
- A delayed health hazard
- A fire hazard

MATERIAL SAFETY DATA SHEET



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Effective Date: 16-Mar-07
Product Code: 46005
MSDS: 005615

TELONE* E.C. SOIL FUMIGANT

CALIFORNIA PROPOSITION 65: The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains a chemical(s) known to the State of California to cause cancer. The chemical is 1,3-Dichloropropene (CAS # 542-75-6)

CONSENT ORDER FOR PMN (UNITED STATES)

In the United States, a component of this material, cis-1,3-dichloro-propene (DR-0019-3180), was reviewed by the Environmental Protection Agency under PMN 88-608. There was no resulting consent order. However, EPA is concerned that, based on an analogous chemical structure, this PMN material may cause oncogenicity, mutagenicity, neurotoxicity, and developmental toxicity and may result in unreasonable risk to unprotected workers. The EPA strongly recommends that, to mitigate inhalation exposure, workers should wear a NIOSH approved respirator and to mitigate dermal exposure, should wear adequate protective clothing which covers any exposed parts of the body, impervious gloves, and chemical safety goggles or equivalent.

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
1,3-Dichloropropylene	542-75-6	NJ1 NJ2 NJ3 PA1 PA2 PA3

NJ1=New Jersey Special Health Hazard Substance (present at greater than or equal to 0.1%).

NJ2=New Jersey Environmental Hazardous Substance (present at greater than or equal to 1.0%).

NJ3=New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).

PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).

PA2=Pennsylvania Special Hazardous Substance (present at greater than or equal to 0.01%).

PA3=Pennsylvania Environmental Hazardous Substance (present at greater than or equal to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Health	3
Flammability	3
Reactivity	0

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): This product contains the following substance(s) listed as "Hazardous Substances" under CERCLA, which may require reporting of releases:

Chemical Name	CAS#	RQ	% in Product
1,3-Dichloropropene	542-75-6	100 lb.	93.6

16. OTHER INFORMATION:

MSDS STATUS: Revised Sections: 2 & 3
Reference: DR-0354-7420
Replaces MSDS Dated: 3/30/04
Document Code: D03-017-008
Replaces Document Code: D03-017-007

The Information Herein Is Given In Good Faith, But No Warranty, Express or Implied, Is Made. Consult Dow AgroSciences for Further Information.

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