



# MATERIAL SAFETY DATA SHEET

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## 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: Pic-C60  
PRINCIPAL USE: Pesticide (Fumigant)

Date Prepared: February 10, 2009  
Date Revised: N/A

<b>DISTRIBUTOR:</b> Reddick Fumigants of NC, LLC 3002 W. Main Street Williamston, NC 27892 Phone: 1-800-358-8837	<b>24-HOUR EMERGENCY TELEPHONE NUMBER:</b>  CHEMTREC: (800) 424-9300
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## 2. COMPOSITION, INFORMATION ON INGREDIENTS

CAS #	Chemical Name	% by Weight	RTECS Number	NFPA 704 Rating
542-75-6	1,3-Dichloropropene	40.0	UC 8310000	3 – 3 – 0
76-06-2	Chloropicrin	60.0	PB6300000	4 – 0 – 3

### OSHA HAZARDOUS INGREDIENTS

Chemical Name	PEL	TLV – ACGIH	IDLH Immediately Dangerous to Life or Health
1,3-Dichloropropene	1 ppm (Skin) 5 mg/m <sup>3</sup> (Skin)	1 ppm (Skin) 5 mg/m <sup>3</sup> (Skin)	N.D.
Chloropicrin	0.1 ppm TWA 0.7 mg/m <sup>3</sup> TWA	0.1 ppm TWA 0.7 mg/m <sup>3</sup> TWA	2 ppm

## 3. HAZARDS IDENTIFICATION

### Emergency Overview

Appearance:	Colorless to straw colored liquid with a pungent, sweet, penetrating odor.
HAZARDOUS CHEMICAL	Highly toxic and irritating fumes are released in fire situations. Keep unnecessary people away; isolate hazard area. Stay upwind. May cause severe eye irritation, slight corneal injury, and tearing. Prolonged exposure may cause skin irritation, even a burn. May be toxic to fish and aquatic organisms.
Target Organs:	Respiratory, lung, liver, kidney, stomach, and urinary bladder effects

This fumigant has Chloropicrin as an ingredient. Chloropicrin has the capacity to cause marked irritation to the upper respiratory tract, and is a strong lachrymator (tear-producing eye irritant). Chloropicrin's odor threshold is about 0.1 ppm and the eyes can begin tearing or stinging at about 0.3 ppm. Being able to sense the presence of



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Chloropicrin at these levels constitutes a good warning of exposure. Low concentrations, below those necessary to cause serious systemic intoxication, are capable of causing painful eye irritation, which will not be voluntarily tolerated and will cause a person to immediately leave the exposure area. However, the effect may be so powerful that a person may become temporarily blinded, thus becoming panic-stricken, which could lead to accidents.

## POTENTIAL HEALTH EFFECTS\*

Eyes	<ul style="list-style-type: none"> <li>• May cause severe eye irritation and slight corneal injury.</li> <li>• Vapors may cause lachrymation (tears) and irritation.</li> </ul>
Skin	<ul style="list-style-type: none"> <li>• A single prolonged exposure may result in the material being absorbed in harmful amounts.</li> <li>• Prolonged or repeated exposure may cause skin irritation, even a burn.</li> <li>• May cause allergic skin reactions.</li> </ul>
Ingestion	<ul style="list-style-type: none"> <li>• Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing amounts larger may cause serious injury, even death.</li> </ul>
Inhalation	<ul style="list-style-type: none"> <li>• Excessive vapor concentrations are readily attainable and may cause serious adverse effects, even death.</li> <li>• If aspirated (liquid enters the lungs), may be rapidly absorbed through the lungs and result in injury to other body systems.</li> </ul>
Carcinogenicity	<ul style="list-style-type: none"> <li>• IARC and NTP has listed 1,3-Dichloropropene as a potential human carcinogen.</li> </ul>

## 4. FIRST AID MEASURES

Eyes	Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Occasionally, lift the upper and lower eyelids. Get medical attention if discomfort continues.
Skin	Immediately remove contaminated clothing, shoes, and other items covering the skin. Wash contaminated skin area thoroughly with soap and water. Aerate and then launder any contaminated clothing. Destroy shoes and other leather items; dispose of heavily contaminated clothing.
Inhalation	Get exposed person to fresh air. Keep warm. Make sure person can breathe freely. Place victim if half upright position. If breathing has stopped, give artificial respiration, preferably with the aid of a pocket mask to avoid contact with the chemical substance. Do not give anything by mouth to an unconscious person. Get medical attention as soon as possible. Administer 100% humidified oxygen, if available.
Ingestion	Do NOT induce vomiting. If conscious and alert, have victim rinse the contaminated mouth cavity several times with a fluid such as water. Get medical attention immediately.
Other Instructions	Obtain medical assistance at once in case of illness or burn after exposure, or if irritation to eyes and respiratory tract persist. Do not allow conditions that could accidentally cause further exposure until recovery is complete.
Note to Physician	No additional information available.



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## 5. FIRE-FIGHTING MEASURES

Flash Point (°F.)	97° F
Flammable Limits	Not tested for mixtures. 1,3-Dichloropropene = 5.5 – 14.5% @ 176° F (80° C)
Auto Ignition Temperature	Not available
Extinguishing Media	All conventional fire extinguishing media are suitable: water spray, dry chemical, carbon dioxide, alcohol-resistant chemical foam. Contain run-off water, if possible.
Special Fire Fighting Procedures	<ul style="list-style-type: none"> <li>Keep unnecessary people away; isolate hazard area and deny unnecessary entry.</li> <li>Wear self-contained breathing apparatus and special protective clothing, including heavy neoprene or rubber boots and neoprene gloves. See Section 8, which addresses protective clothing for spill situations.</li> <li>Stay away from the ends of cylinders.</li> </ul>
Unusual Fire & Explosion Hazards	<ul style="list-style-type: none"> <li>Highly toxic and irritating fumes are released in fire situations.</li> <li>Keep product vapors away from possible ignition sources.</li> <li>Vapors can form flammable mixtures at ordinary temperatures.</li> <li>NOTE: Per DOT regulations, cylinders containing 1,3-Dichloropropene are not equipped with relief valves or fusible overpressure devices.</li> </ul>

## 6. ACCIDENTAL RELEASE MEASURES

Spill Mitigation	<ul style="list-style-type: none"> <li>Use proper personal protective equipment (PPE) as indicated in Section 8.</li> <li>Eliminate all sources of ignition in immediate area.</li> <li>Do not touch damaged containers or spilled material unless wearing appropriate PPE.</li> <li>Avoid low places, ventilate closed spaces before entering, and work upwind if possible.</li> </ul>
Small Spills <10 gallons	<ul style="list-style-type: none"> <li>Isolate immediate area at least 100 feet.</li> <li>Wear SCBA and recommended PPE.</li> <li>Reposition leaking container so the leak is up and the flow is reduced.</li> <li>Cover spill with diatomaceous earth, clay, sand or other non-combustible material.</li> <li>Collect the spent absorbent material and deposit in a sealable polyethylene or steel container.</li> </ul>
Large Spills >10 gallons	<ul style="list-style-type: none"> <li>Isolate at least 300 feet in all directions.</li> <li>Wear SCBA and recommended PPE.</li> <li>Calculate percentage of mixture for 1,3-DCP notifications of RQ release if over 100 lbs. (10 gal.)</li> <li>Move leaking or damaged cylinders outdoors to an isolated location.</li> </ul>
Containment	<ul style="list-style-type: none"> <li>Prevent entry into waterways, sewers, basements, or confined areas.</li> <li>Do not permit entry into the spill or leak area by any other person until the concentration of 1,3-DCP is measured to be less than 1 ppm.</li> </ul>
Disposal	<ul style="list-style-type: none"> <li>See section 13.</li> </ul>



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## 7. HANDLING AND STORAGE

### HANDLING

- This fumigant product is a highly hazardous material and must be handled with care only by those individual experienced with its proper use. **READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.**
- Persons moving, handling, or opening containers must wear the personal protective equipment as specified in the Hazards to Humans section of the product label.
- Ropes, slings, hooks, tongs, and similar handling devices should not be used for unloading cylinders. A suitable hand truck, fork truck, or similar device to which the cylinders can be firmly secured should be used for transporting the heavier cylinders.
- When cylinder not in use, keep valves closed and secure.
- Ventilation: Whenever possible. Open cylinder only in a well-ventilated area with the operator "upwind" from the container or provide ventilation to control airborne levels below the permissible exposure limit.
- Keep away from open flame or heat.
- Do not allow to spill.
- Always have adequate clean water available to wash the skin.
- If product splashes or spill on shoes or clothing, remove them at once. If liquid contacts skin where rings or bandages area worn, remove them and wash exposed skin with soap and water. Dispose of shoes or other leather items; launder clothing and do not wear until free of all traces of fumigant. Keep and wash PPE and work clothing separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product.
- Use only dry nitrogen gas (180 psig maximum) to pressurize cylinders.
- Do not use containers or application equipment made of magnesium, aluminum, zinc, or cadmium. Avoid strong bases.
- Containers should never be refilled by the consumer or used for any other product or purpose.
- For disposal, see Section 13.

### STORAGE

- Cylinders should be tightly closed.
- Store in a cool, dry, well-ventilated area under lock and key (secured).
- Keep flammable and combustible liquids, oxidizers, and combustible solid materials away from 1,3-DCP cylinders.
- Post as a pesticide storage area.
- Do not contaminate water, food, or feed by storage or disposal.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### ENGINEERING CONTROLS

Work / Hygienic Practices	Wash hands and face before eating, drinking, or smoking after handling material.
Equipment	Emergency eyewash and shower facilities should be readily accessible.
Ventilation	Use in well ventilated places and work upwind from cylinders whenever possible. Use only under a chemical fume hood.

### PERSONAL PROTECTION FOR ROUTINE USE OF PRODUCT



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Clothing	Loose-fitting or well ventilated long-sleeved shirt, long pants or coveralls, socks with shoes.
Eyes	Full-face shield or safety glasses with brow and side shields must be worn if full-facepiece respiratory protection is not required.
Skin	Gloves – Wear chemical-resistant gloves, such as barrier laminate (EVAL) or Viton.
Respiratory	<p>Air concentrations less than 8-hour exposure limit of 0.1 ppm or less:</p> <ul style="list-style-type: none"> <li>No respiratory protection required.</li> </ul> <p>Air concentrations greater than 0.1 ppm to 2 ppm:</p> <ul style="list-style-type: none"> <li>Full facepiece respirator or powered air-purifying respirator with an organic vapor cartridge or canister. For pesticide applicators or if mists are generated during the handling of the product, then an R, P, or HE prefilter must be used in conjunction with the organic vapor cartridge or canister.</li> <li>Any self-contained breathing apparatus or supplied air respirator with a full facepiece.</li> </ul> <p>Air concentrations greater than 2 ppm (IDLH):</p> <ul style="list-style-type: none"> <li>Positive pressure self-contained breathing apparatus (SCBA).</li> <li>Continuous-flow supplied air respirator equipped with escape cylinder &amp; full facepiece.</li> </ul> <p>Emergency or planned entry into unknown concentrations:</p> <ul style="list-style-type: none"> <li>Any full facepiece self-contained breathing apparatus in pressure-demand mode.</li> <li>Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand mode in combination with an auxiliary self-contained positive-pressure breathing apparatus (5 to 10 minute escape cylinder).</li> </ul> <p>Escape:</p> <ul style="list-style-type: none"> <li>Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister.</li> <li>Any appropriate escape-type, self-contained breathing apparatus.</li> </ul>
Measurement	The air concentration level can be measured by a direct reading detection device, such as a Kitagawa pump, using a Chloropicrin detector tube.

## PERSONAL PROTECTION FOR SPILLS/EMERGENCY

Fire	In case of fire only, use normal fire fighting equipment. If chemical release and fire involved, wear recommended chemical protective clothing in conjunction with normal fire fighting gear.
Spills	Minimum PPE: Liquid impervious chemical coveralls, chemical resistant gloves and boots Upgrade respiratory protection in accordance with the "Routine Use" table above in this Section.
Chemical Protective Clothing	<ul style="list-style-type: none"> <li>For cleanup where liquid splash will be incidental, a liquid impervious chemical coverall may be worn such as Tyvek QC or Saranex SL.</li> <li>In confined areas or where liquid splash is likely, wear a vapor-tight suit such as Tychem TK or Lappler CPF3.</li> <li>Use Responder for use against permeation by Chloropicrin for periods greater than 8 hours. Teflon withstands permeations from 4 to 8 hours.</li> </ul>

### EPA Chemical Resistance Category H Selection Chart

Type of Personal Protective Material (Thickness 14 mils or greater)							
Barrier Laminate	Butyl Rubber	Nitrile Rubber	Neoprene Rubber	Natural Rubber	Polyethylene	Polyvinyl chloride (PVC)	Viton
High	Slight	Slight	Slight	None	None	None	High

HIGH: Highly chemical-resistant. Clean or replace PPE at end of each day's work period. Rinse off pesticides at rest breaks.

MODERATE: Moderately chemical-resistant. Clean or replace PPE within an hour or two of contact.

SLIGHT: Slightly chemical-resistant. Clean or replace PPE within 10 minutes of contact.



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NONE: No chemical-resistance. Do not wear this type of material as PPE when contact is possible.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Colorless to straw-colored liquid
Odor	Pungent, sweet, penetrating odor
pH	Not available
Vapor Pressure	Not available for product
Vapor Density	Not available for product
Evaporation Rate	Not available for product
Specific Gravity	1.44 @ 70 °F. (21 °C)
Density	12.0 pounds/gallon
Boiling Point	Not available for product
Freezing/Melting Point	Not available for product
Decomposition Temperature	Not available for product
Solubility	0.1 g/100 ml @ 77 °F
Viscosity	Not available for product
% Volatile	Not tested, presumed slightly volatile
Molecular Formula	Mixture
Molecular Weight	Not available for product
Other	<ul style="list-style-type: none"> <li>• Vapors are heavier than air</li> <li>• Liquid is heavier than water and settles to bottom</li> </ul>

## 10. STABILITY AND REACTIVITY

Stability	Product is stable under normal temperatures and pressures.
Conditions to Avoid	Incompatible materials, excess heat. May form explosive mixtures with air when confined.
Materials to Avoid Incompatibility	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	Will not occur.
Special Precautions	None reported.

## 11. TOXICOLOGICAL INFORMATION

### HUMAN TOXICOLOGY FOR 1,3-DICHLOROPROPENE

NOTE: This product has not been tested for toxicology, but its primary product, Chloropicrin has been evaluated and the data are summarized below:

Value (LD <sub>50</sub> or LC <sub>50</sub> )	Animal	Routes	Components
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300 mg/kg	Rabbit	Skin	1,3-DCP
300 mg/kg	Rat (male)	Acute Oral	1,3-DCP
200 mg/kg	Rat (female)		
850-1030 ppm	Rat (male)	Acute Inhalation	1,3-DCP
900 ppm	Rat (female)		

## 12. ECOLOGICAL INFORMATION FOR 1,3-DCP

**Environmental Fate: Movement and Partitioning:** Based largely or completely on data for the major component(s). Potential for mobility in soil is very high (Koc between 0 and 50). Bioconcentration potential is low (BCF <100 or log Pow <3).

**Degradation and Persistence:** Based largely or completely on data for major component(s). Chemical or physical degradation is expected in the environment. Degradation is expected in the atmospheric and soil environment.

**Ecotoxicology:** Material is highly toxic to aquatic organisms on an acute basis (LC<sub>50</sub> between 0.1 and 1.0 ml/L in most sensitive species). Acute oral LD<sub>50</sub> for bobwhite (*Colinus virginianus*) is 152 mg/kg.

## 13. DISPOSAL CONSIDERATIONS

<p>Return Cylinders To:</p> <p>Reddick Fumigants of NC, LLC          3002 W. Main Street          Williamston, NC 27892          Phone: 800-358-8837</p>	<ul style="list-style-type: none"> <li>• Cylinders are the property of Reddick Fumigants of NC, LLC and should be returned promptly by collect auto freight and according to label instructions on cylinder.</li> <li>• Do not ship cylinders without safety caps or valve protection bonnets.</li> <li>• When a cylinder is partially full and there is no further requirement for the product, contact the company for return instructions.</li> </ul>
Discharge	<ul style="list-style-type: none"> <li>• Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a national discharge elimination system (NPDES) permit.</li> <li>• Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority.</li> </ul>
Disposal	<ul style="list-style-type: none"> <li>• Do not contaminate water, food, or feed by storage or disposal. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law.</li> <li>• If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, the Hazardous Waste representative at the nearest EPA Regional Office, or the product manufacturer or distributor for guidance.</li> </ul>



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## 14. TRANSPORT INFORMATION

<p>LAND USDOT</p>	<p><b>Shipping Paper Description for non-bulk packages:</b>          Toxic by Inhalation Liquid, Corrosive, n.o.s. (Chloropicrin, 1,3-Dichloropropene), 6.1, (8)(3), UN3390, PG I, RQ(1,3-Dichloropropene), Poison Inhalation Hazard, Zone B</p> <p><b>Shipping Paper Description for Bulk packages:</b>          Toxic by Inhalation Liquid, Corrosive, n.o.s. (Chloropicrin, 1,3-Dichloropropene), 6.1, (8)(3), UN3390, PG I, RQ(1,3-Dichloropropene), Marine Pollutant, Poison Inhalation Hazard, Zone B</p> <p><b>DOT Marking on Non-Bulk Package:</b>          Toxic by Inhalation Liquid, Corrosive, n.o.s. (Chloropicrin, 1,3-Dichloropropene), UN3390, RQ(1,3-Dichloropropene)</p> <p><b>DOT Marking on Bulk Package:</b>          Toxic by Inhalation Liquid, Corrosive, n.o.s. (Chloropicrin, 1,3-Dichloropropene), UN3390, RQ(1,3-Dichloropropene), Marine Pollutant</p> <p><b>DOT Hazard Warning Label:</b>          Poison Inhalation Hazard 6, Corrosive 8, Flammable Liquid 3</p> <p><b>DOT Placard:</b>          Poison Inhalation Hazard 6</p> <p><b>Notes:</b></p> <ol style="list-style-type: none"> <li>For empty packages containing residue only, add the words "RESIDUE, Last Contained" in association with the proper shipping description listed above</li> </ol>
<p>WATER (IMO/IMDG)</p>	<p>Use the shipping information indicated above for LAND transport adding the words "<b>MARINE POLLUTANT</b>" to the shipping description on both Bulk and Non-Bulk packages, add the DOT MARINE POLLUTANT mark to both Bulk and Non-Bulk packages, add the MARINE POLLUTANT mark to the outside of the Freight Container.</p>
<p>AIR (IATA/ICAO)</p>	<p><b>Forbidden</b></p>
<p>Reportable Quantity</p>	<p>100# (1,3-Dichloropropene)</p>
<p>Emergency Guide</p>	<p>154 (ERG-Emergency Response Guidebook)</p>



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## 15. REGULATORY INFORMATION

### U.S. FEDERAL

#### TSCA

TSCA Inventory:	1,3-Dichloropropene, CAS# 542-75-6 is listed
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#### SARA

Section 302 (RQ)	CERCLA RQ (Reportable Quantity) for 1,3-DCP is 100 lbs.									
Section 302 (TPQ)	None of the chemicals in this product have a TPQ (Threshold Planning Quantity)									
SARA Codes	Pic-C60 Acute, Chronic, Fire 1,3-Dichloropropene, CAS# 542-75-6 Acute, Chronic, Fire Chloropicrin, CAS# 76-06-2 Acute, Chronic									
Section 313	This product contains the following EPCRA Section 313 chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372):  <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>CAS Registry Number</u></th> <th style="text-align: left;"><u>Chemical Name</u></th> <th style="text-align: left;"><u>% by Weight</u></th> </tr> </thead> <tbody> <tr> <td>542-75-6</td> <td>1,3-Dichloropropene</td> <td>61.1</td> </tr> <tr> <td>76-06-2</td> <td>Chloropicrin</td> <td>35</td> </tr> </tbody> </table>	<u>CAS Registry Number</u>	<u>Chemical Name</u>	<u>% by Weight</u>	542-75-6	1,3-Dichloropropene	61.1	76-06-2	Chloropicrin	35
<u>CAS Registry Number</u>	<u>Chemical Name</u>	<u>% by Weight</u>								
542-75-6	1,3-Dichloropropene	61.1								
76-06-2	Chloropicrin	35								

#### RCRA (HAZARDOUS WASTES)

Listed U or P	This product or its ingredients are not specifically listed
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#### CLEAN AIR ACT

Hazardous Air Pollutants	This material does not contain any HAPS
Class 1 or 2 Ozone depletors	This material does not contain any Class 1 or 2 Ozone depletors

#### CLEAN WATER ACT / OIL POLLUTION ACT OF 1990

Section 311 (40 CFR 110)	1,3-DCP, CAS# 542-75-6, is classified. Discharge or spills that produce a visible sheen on either surface water, or in waterways/sewers, which lead to surface water, must be reported to the National Response Center at 800-424-8802.
Priority Pollutants	1,3-DCP, CAS# 542-75-6, is listed.

### STATE

Chloropicrin can be found on the following state right-to-know lists: California, New Jersey, Pennsylvania
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## 16. ADDITIONAL INFORMATION

### Hazard Rating Systems

Category	NFPA 704*			NPCA-HMIS**		
	Chloropicrin	1,3-DCP	Pic-C60	Chloropicrin	1,3-DCP	Pic-C60
Health	4	3	3	4	3	3
Flammability	0	3	3	0	3	3
Reactivity	3	0	3	3	0	3

\* NFPA – National Fire Protection Association

\*\* NPCA – National Paint Coatings Association

704 – (National Fire Code Standard No. 704)

HMIS – Hazardous Material Information System

### Hazard Key

4 - Severe    3 - Serious    2 - Moderate    1 - Slight    0 - Minimal

### WARRANTY

Notice: The information above is believed to be accurate and represents the best information currently available to us. Seller warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.