

# MSDS SHEETS

---

---

- Fiberglass Reinforced Plastic Ductwork
  - Aropol™ Q 6490 Resin
  - Woven Rovings and Fabrics
  - NOROX® MEKP-9H Catalyst
- 
- 

**Spunstrand**  
*Green duct that works*

620 North Post Street • Post Falls, ID 83854 • 208.777.7444 ph 208.777.7445 fax • [www.spunstrand.com](http://www.spunstrand.com)

# MATERIAL SAFETY DATA SHEET

Product Name: **Fiberglass Reinforced Plastic Ductwork**

## SECTION 1:

Manufacturer: Spunstrand Incorporated  
Address: 60662 N. Frontage Road, Wallace, ID 83873  
Ph # / Fax #: 208.752.1157 ph / 208.556.0133 fax  
MSDS Date Revised: March 20, 2002  
Product Name: Fiberglass Reinforced Plastic Ductwork  
Chemical Name: N/A  
CAS NO.: None

## SECTION 2:

### **Ingredient Information**

Contains: Fibrous glass 55-65%  
Epoxy-acrylate resin 45-55% (cured)  
Antimony trioxide 3% or none (mixed with resin)  
Methyl ethyl keton peroxide 1.5-2% (catalyst/cured)

## SECTION 3:

Physical Data:  
Physical State: Solid  
Boiling Point: Unknown  
Melting Point: Unknown  
Vapor Density: None  
Specific Gravity: Unknown  
Percent Volatile: Not volatile  
Evaporation: None  
Appearance: Gray colored plastic containing fibrous material.  
Will be greenish and translucent if it does not contain antimony.

## SECTION 4:

### **Fire and Explosion Data:**

Flash Point: Will not flash off  
Flammable Limits: Self extinguishing. Class 1 flame spread with antimony trioxide.  
Explosive Limit: Not explosive

### **Hazardous Decomposition:**

Products: May form toxic materials such as carbon dioxide, carbon monoxide, various hydrocarbons, etc.  
Extinguishing Media: Regular foam or water fog, or carbon dioxide, or

dry chemical.

**Firefighting Procedures:** Wear self-contained breathing apparatus with a full face piece operated in the positive pressure demand mode when fighting fires.

### **SECTION 5:**

#### **Health Hazard Data: Grinding Dust**

**Threshold Limit Value:** Not established for this product

#### **Effects of Acute:**

**Overexposure (Eyes):** Can cause irritation, redness, tearing, blurred vision.

**Overexposure (Skin):** Prolonged or repeated contact with skin can cause moderate irritation.

**Overexposure (Respiratory):** Excessive inhalation of dust can cause nasal and respiratory irritation.

**Primary Routes of Entry:** Inhalation, eye and skin contact.

#### **First Aid Procedures:**

**Inhalation:** Remove from exposure. Get medical help if irritation persists.

**Eye Contact:** Flush well with running water for at least 15 minutes. Get medical help if irritation persists

**Skin Contact:** Cleanse with soap and water. Get medical help if irritation persists.

**Ingestion:** Unlikely. Consult physician if unusual reaction is noted.

**Fires:** Remove to fresh air. Administer oxygen and get medical help.

### **SECTION 6:**

#### **Reactivity Data:**

**Stability:** Chemically stable

**Corrosivity:** Not corrosive

**Reactivity:** Not reactive

**Reactivity with Water:** Not reactive

**Incompatible Substances:** None known

### **SECTION 7:**

#### **Spill, Leak, Shipping, Storage and Disposal Procedures:**

**Spills / Leaks:** Vacuum or sweep up dust deposits.

**Accidental or Unplanned Releases:** Clean area with vacuum, broom or wet methods.

**Storage:** Care should be taken to prevent crushing. Care should also be taken to prevent scratches of the internal surface of the duct. Product should be stored away from open flame or other sources of ignition.

**Waste Disposal Information:** Scrap material should be disposed of in a sanitary

landfill in accordance with federal, state and local regulations. Waste is not hazardous.

**SECTION 8:**

**Protective Equipment to Be Used:**

- Respiratory Protection: When grinding fiberglass duct, an MSHA or NIOSH approved dust mask should be worn to prevent inhalation of dust. This should be sufficient unless the workplace exposure limit of the product or any component thereof is exceeded. In this case, a NIOSH / MSHA approved respirator is advised in absence of proper environmental control (see your safety equipment supplier). Engineering or administrative controls should be implemented to reduce exposure.
- Ventilation: Provide sufficient mechanical ventilation to maintain exposure below threshold limit values.
- Protective Gloves: Wear resistant gloves to prevent slivers, scratches and scrapes.
- Eye Protection: OSHA approved safety glasses should be worn (consult your safety equipment supplier).
- Other Protective Clothing: Clothing or coveralls that cover exposed skin.

**SECTION 9:**

**Special Precautions or Other Comments:**

None

AROPOL™ Q 6490 RESIN  
120737

**I. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

Ashland	Regulatory Information Number	1-800-325-3751
P.O. Box 2219	Telephone	614-790-3333
Columbus, OH 43216	Emergency telephone	1-800-ASHLAND (1-800-274-5263)

Product name	AROPOL™ Q 6490 RESIN
Product code	120737
Product Use Description	No data

**2. HAZARDS IDENTIFICATION**

**Emergency Overview**

Appearance: liquid,

WARNING! FLAMMABLE LIQUID AND VAPOR. MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. MAY BE HARMFUL IF INHALED OR SWALLOWED. MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN, CAUSE IRRITATION AND BURNS.

**Potential Health Effects**

**Routes of exposure**

Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

**Eye contact**

Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

**Skin contact**

Can cause skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, and drying and cracking of skin, burns and other skin damage. Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during safe handling and use.

**Ingestion**

AROPOL™ Q 6490 RESIN  
120737

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

### **Inhalation**

Breathing aerosol and/or mist is possible when material is sprayed. Aerosol and mist may present a greater risk of injury because more material may be present in the air than from vapor alone. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

### **Aggravated Medical Condition**

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: respiratory tract, skin, lung (for example, asthma-like conditions), liver, male reproductive system, auditory system

### **Symptoms**

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: metallic taste, stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, loss of coordination, confusion, liver damage

### **Target Organs**

Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: mild, reversible kidney effects, effects on hearing, respiratory tract damage (nose, throat, and airways), testis damage, liver damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: mild effects on color vision, effects on hearing, respiratory tract damage (nose, throat, and airways), central nervous system effects

### **Carcinogenicity**

There was no increase in cancer in rats exposed to styrene by inhalation. However, there was an increase in lung cancer in styrene-exposed mice. The relevance of the mouse lung cancer to humans is uncertain. Styrene did not cause cancer in mice in studies in which the chemical was placed in the stomachs through a feeding tube, or in a study in which styrene was given by injection. Epidemiological studies do not provide a

AROPOL™ Q 6490 RESIN  
120737

basis for concluding that styrene causes cancer. Styrene is listed as a possible human carcinogen by the International Agency for Research on Cancer (IARC).

**Reproductive hazard**

This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animal. The relevance of these findings to humans is uncertain.

**Other information**

Styrene readily reacts with low concentrations of halogens (for example, fluorine, chlorine, bromine, or iodine) to form a tear-producing substance.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Components</b>	<b>CAS-No.</b>	<b>Concentration</b>
STYRENE	100-42-5	>=30-<40%

**4. FIRST AID MEASURES**

**Eyes**

If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

**Skin**

Remove contaminated clothing. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and symptoms persist, seek medical attention. Launder clothing before reuse.

**Ingestion**

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

**Inhalation**

AROPOL™ Q 6490 RESIN  
120737

If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

**Notes to physician**

**Hazards:** This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 2 - Swallowing) when deciding whether to induce vomiting.

**Treatment:** No information available.

**5. FIRE-FIGHTING MEASURES**

**Suitable extinguishing media**

Water, Foam, Carbon dioxide (CO<sub>2</sub>), Dry chemical

**Hazardous combustion products**

May form:, carbon dioxide and carbon monoxide, toxic fumes, various hydrocarbons

**Precautions for fire-fighting**

Material is volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, flames, sparks, heaters, smoking, electric motors, static discharge or other ignition sources at locations near the material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. During a fire, irritating or toxic decomposition products may be generated. Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). Polymerization will take place under fire conditions. If polymerization occurs in a closed container, there is a possibility it will rupture violently. Cool storage container with water, if exposed to fire.

**Flammability Class for Flammable Liquids**

Flammable Liquid Class IC

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions**

For personal protection see section 8. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at



AROPOL™ Q 6490 RESIN  
120737

source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal.

**Environmental precautions**

Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

**Methods for cleaning up**

Absorb liquid on vermiculite, floor absorbent or other absorbent material.

**7. HANDLING AND STORAGE**

**Handling**

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing impervious protective gloves. As with all products of this nature, good personal hygiene is essential. Hands and other exposed areas should be washed thoroughly with soap and water after contact, especially before eating and/or smoking. Regular laundering of contaminated clothing is essential to reduce indirect skin contact with this material. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77.

**Storage**

Store in closed containers in a dry, well-ventilated area. Do not store near extreme heat, open flame, or sources of ignition.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines**

<b>STYRENE</b>		<b>100-42-5</b>
ACGIH	time weighted average	20 ppm
ACGIH	Short term exposure limit	40 ppm

# ASHLAND

## SAFETY DATA SHEET

Page: 6  
Revision Date: 01/25/2008  
Print Date: 4/30/2009  
MSDS Number: R0356864  
Version: 1.2

AROPOL™ Q 6490 RESIN  
120737

NIOSH	Recommended exposure limit (REL):	50 ppm
NIOSH	Recommended exposure limit (REL):	215 mg/m <sup>3</sup>
NIOSH	Short term exposure limit	100 ppm
NIOSH	Short term exposure limit	425 mg/m <sup>3</sup>
OSHA Z2	time weighted average	100 ppm
OSHA Z2	Ceiling Limit Value:	200 ppm
OSHA Z2	Maximum concentration:	600 ppm

### General advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

### Exposure controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s). OSHA has formally endorsed a styrene industry proposal for a voluntary 50 ppm workplace limit on styrene. Members of the Styrene Information and Research Council (SIRC), Composites Institute (CI), Composite Fabricators Association (CFA), International Cast Polymers Association (ICPA) and National Marine Manufacturers Association (NMMA) have agreed to use either engineering controls, work practices or respiratory protection to achieve this voluntary limit for styrene.

### Eye protection

Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

### Skin and body protection

Wear resistant gloves (consult your safety equipment supplier).  
To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

### Respiratory protection

If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH-approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH respirators

AROPOL™ Q 6490 RESIN  
120737

(negative pressure type) under specified conditions (see your industrial hygienist).  
Engineering or administrative controls should be implemented to reduce exposure.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state</b>	liquid
<b>Form</b>	No data
<b>Colour</b>	No data
<b>Odour</b>	pungent
<b>Boiling point/boilingrange</b>	145.00 °C / 293 °F
<b>pH</b>	No data
<b>Flash point</b>	84 °F / 29 °C, Seta closed cup
<b>Evaporation rate</b>	No data
<b>Explosion limits</b>	1.1 %(V) 6.1 %(V)
<b>Vapour pressure</b>	No data
<b>Vapour density</b>	(>) 1 (AIR=1)
<b>Density</b>	1.078 g/cm3 @ 77 °F / 25 °C 9 lb/gal @ 77.00 °F / 25.00 °C
<b>Solubility</b>	insoluble in water
<b>Partition coefficient: n-octanol/water</b>	No data
<b>Autoignition temperature</b>	No data

## 10. STABILITY AND REACTIVITY

### Stability

This material is unstable at elevated temperatures and pressures.

### Conditions to avoid

Avoid heat, open flame, and prolonged storage at elevated temperatures., Avoid contact with:, excessive heat

### Incompatible products

Avoid contact with:, acids, aluminum chloride, halogens, iron chloride, metal salts, peroxides, strong alkalis, strong oxidizing agents

### Hazardous decomposition products

May form:, carbon dioxide and carbon monoxide, toxic fumes, various hydrocarbons

AROPOL™ Q 6490 RESIN  
120737

**Hazardous reactions**

Product can undergo hazardous polymerization., Avoid exposure to excessive heat, peroxides and polymerization catalysts.

**Thermal decomposition**

No data

**11. TOXICOLOGICAL INFORMATION**

**Acute oral toxicity**

STYRENE

LD 50 Rat: 2,650 mg/kg

**Acute inhalation toxicity**

STYRENE

LC 50 Rat: 2800 ppm, 4 h

**Acute dermal toxicity**

**12. ECOLOGICAL INFORMATION**

**Aquatic toxicity**

**Acute and Prolonged Toxicity to Fish**

No data

**Acute Toxicity to Aquatic Invertebrates**

No data

**Environmental fate and pathways**

No data

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods**

Dispose of in accordance with all applicable local, state and federal regulations.  
Do not discharge effluent containing this product into lakes, streams, ponds or estuaries,

AROPOL™ Q 6490 RESIN  
120737

oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit, and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution's Environmental Services Group at 800-637-7922.

#### 14. TRANSPORT INFORMATION

**IMDG:**

UN1866, RESIN SOLUTION 3, III

**IATA\_P:**

UN1866, Resin solution 3, III

**IATA\_C:**

UN1866, Resin solution 3, III

**CFR\_ROAD:**

UN1866, Resin solution 3, III

**CFR\_RAIL:**

UN1866, Resin solution 3, III

**CFR\_INWTR:**

UN1866, Resin solution 3, III

Dangerous goods descriptions (if indicated above) may not reflect package size, quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

#### 15. REGULATORY INFORMATION

**California Prop. 65**

WARNING! This product contains a chemical known in the State of California to cause cancer.

BENZENE  
CATECHOL

WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

BENZENE

**ASHLAND**  
**SAFETY DATA SHEET**

Page: 10  
Revision Date: 01/25/2008  
Print Date: 4/30/2009  
MSDS Number: R0356864  
Version: 1.2

AROPOL™ Q 6490 RESIN  
120737

TOLUENE

**SARA Hazard Classification**    Fire Hazard  
  Acute Health Hazard  
  Chronic Health Hazard  
  Reactivity Hazard

**SARA 313 Component(s)**  
STYRENE                            100-42-5                            38.8486%

	<b>Health</b>	<b>Flammability</b>	<b>Reactivity</b>	<b>Other</b>
<b>HMIS</b>	2*	3	2	
<b>NFPA</b>	2	3	2	



**16. OTHER INFORMATION**

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).



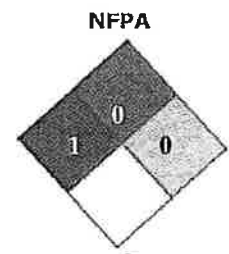
INNOVATIONS FOR LIVING™

View MSDS : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

<b>Personal Protective Equipment</b>	<b>WHMIS Pictograms</b>	<b>DOT Pictograms</b>
 	<b>Not Controlled</b>	<b>Not Regulated</b>
Protective Gloves      Safety Glasses		

**SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION**

Product Name: **Woven Rovings and Fabrics**  
 MSDS Manufacturer Number: 21555-NAM  
 Synonyms: Woven Unidirectional Fiberglass Fabric (A-Style Wrap Unidirectional), Stitchbonded Fiberglass Fabric, Woven Fiberglass Fabric, Woven Roving  
 Manufacturer Name: Owens Corning Composite Materials, LLC  
 Address: One Owens Corning Parkway  
 Toledo, OH 43659  
 Customer Service Phone Number: 1-800-GET-PINK or 1-800-438-7465  
 Health Issues Information: 1-419-248-8234 (8am-5pm ET)  
 Technical Product Information: 1-800-GET-PINK or 1-800-438-7465  
 Emergency Phone Number: 1-419-248-5330 (after 5pm ET and weekends)  
 CHEMTREC: 800-424-9300 (24 hours everyday)  
 Canutec: (613) 996-6666 (Canada 24 hours everyday)  
 Website: www.owenscorning.com  
 MSDS Creation Date: February 25, 1997  
 MSDS Revision Date: September 25, 2007  
 MSDS Format: According to ANSI Z400.1-2004



**HMIS**

Health Hazard	1
Fire Hazard	0
Reactivity	0
Personal Protection	X

\* Chronic Health Effects

**SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS#	Ingredient Percent
Polyester Yarn	Not Available	1 - 5 by weight
Size	Not Available	1 - 5 by weight
Fiber Glass (continuous filament, non-respirable)	65997-17-3	60 - 100 by weight

Notes :

The remaining components of this product are non-hazardous or are in a small enough quantity as to not meet regulatory thresholds for disclosure.

As manufactured continuous filament glass fibers are non-respirable. Continuous filament glass products that are chopped, crushed or severely mechanically processed during manufacturing or use may contain a very small amount of respirable particulate, some of which may be glass shards. See Section 8 for Exposure Limit Data.

---

---

### SECTION 3 - HAZARDS IDENTIFICATION

---

---

**Applies to Product :**

Emergency Overview:	No unusual conditions are expected from this product under normal conditions of use.
Route of Exposure:	Eye contact Skin contact Inhalation.
Potential Health Effects:	
Eye:	May cause slight irritation.
Skin:	May cause slight skin irritation.
Inhalation:	May cause irritation of respiratory tract.
Ingestion:	Ingestion of this product is unlikely.
Chronic Health Effects:	There is no known chronic health effect connected with long-term use or contact with this product.
Carcinogenicity:	This material is not considered a carcinogen.
Potential Environmental Effects:	There is no known ecological information for this material.
Aggravation of Pre-Existing Conditions:	Chronic respiratory or skin conditions may temporarily worsen from exposure to this product.
OSHA Regulatory Status:	This product is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

---

---

### SECTION 4 - FIRST AID MEASURES

---

---

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Do not rub or scratch eyes. If eye irritation persists, consult a specialist.
Skin Contact:	Wash off immediately with soap and cold water. DO NOT use warm water because this will open up the pores of the skin, which will cause further penetration of the fibers. Use a wash cloth to help remove fibers. DO NOT rub or scratch affected areas. Remove contaminated clothing. If irritation persists get medical attention.
Inhalation:	Move to fresh air. If symptoms persist, call a physician.
Ingestion:	Accidental ingestion of this material is unlikely. If this does occur, watch person for several days to make sure intestinal blockage does not occur. Rinse mouth with water and drink water to remove fibers from the throat. If symptoms persist, call a physician.
Note to Physicians:	Treat symptomatically.



---

---

## SECTION 5 - FIRE FIGHTING MEASURES

---

---

Flammable Properties:	Non Flammable.
Flash Point:	Not available.
Auto Ignition Temperature:	Not available.
Lower Flammable/Explosive Limit:	In Air: Not available.
Upper Flammable/Explosive Limit:	Not available.
Extinguishing Media:	dry chemical foam carbon dioxide (CO2) water fog
Protective Equipment:	Wear self-contained breathing apparatus (SCBA) and full fire fighting protective gear.
Hazardous Combustion Byproducts:	Carbon monoxide. Carbon dioxide. hydrogen. Other undetermined compounds could be released in small quantities.
Universal Fire And Explosion Hazards:	Not available.

### **NFPA Ratings:**

NFPA Flammability:	0
NFPA Health:	1
NFPA Reactivity:	0

---

---

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

---

---

Personnel Precautions:	Avoid contact with skin and eyes.
Environmental Precautions:	Prevent further leakage or spillage if safe to do so.
Methods for containment:	This material will settle out of the air. Prevent from spreading by covering, diking or other means.
Methods for cleanup:	Use an industrial vacuum cleaner with a high efficiency filter to clean up dust and fiber contamination. Avoid dry sweeping. Pick up and transfer to properly labeled containers.
Other Precautions:	Does not apply.

---

---

## SECTION 7 - HANDLING and STORAGE

---

---

Handling:	Avoid dust formation. Do not breathe dust. Wear personal protective equipment.
Storage:	Keep product in its packaging until use to minimize potential dust generation. Product should be kept dry and undercover.
Hygiene Practices:	Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use.

---

---

## SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Provide local exhaust and/or general ventilation to maintain exposure below regulatory and recommended limits. Dust collection system must be used in transferring operations, cutting or machining or other dust generating processes, such as using power tools. Vacuum or wet clean-up methods should be used.
Eye/Face Protection:	Safety glasses with side-shields.
Skin Protection Description:	Protective gloves. Long sleeved shirt and long pants.
Respiratory Protection:	When workers are facing airborne particulate/dust concentrations above the exposure limit they must use appropriate certified respirators. A properly fitted NIOSH approved disposable N 95 type dust respirator or better is recommended. Consult with your company's local procedures for selection, training, inspection and maintenance of respirators. Otherwise, consult the NIOSH web site ( <a href="http://www.cdc.gov/niosh/npptl/topics/respirators/disp_part">http://www.cdc.gov/niosh/npptl/topics/respirators/disp_part</a> ) for a list of dust respirator types and approved suppliers.
General Hygiene Considerations:	Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use.

### EXPOSURE GUIDELINES

	Guideline OSHA	Guideline ACGIH	Ontario Canada	Mexico	
Fiber Glass (continuous filament, non-respirable)	PEL-TWA: 1 f/cc (Respirable)	TLV-TWA: 1 f/cc (Respirable) 5 mg/m <sup>3</sup> (Inhalable)	TWAEV: 1 f/cc (Respirable) 5 mg/m <sup>3</sup> (Inhalable)	TWA: 10 mg/m <sup>3</sup>	

## SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Color:	White to off-white.
Odor:	Odorless
Boiling Point:	No Data
Melting Point:	> 800 °C
Specific Gravity:	2.60 (Ref: water = 1).
Solubility:	Insoluble in water.
Vapor Density:	No Data
Vapor Pressure:	No Data
Evaporation Rate:	No Data
pH:	No Data
Viscosity:	No Data
Flash Point:	Not available.
Auto Ignition Temperature:	Not available.

## SECTION 10 - STABILITY and REACTIVITY

Chemical Stability:	Stable under normal conditions.
Hazardous Polymerization:	Hazardous polymerization does not occur.
Conditions to Avoid:	None expected
Incompatible Materials:	No materials to be especially mentioned.
Special Decomposition Products:	See Section 5 of MSDS for hazardous decomposition products during a fire.

---

---

**SECTION 11 - TOXICOLOGICAL INFORMATION**

---

---

**Applies to Product :**

Acute Toxicity:

Dusts may cause mechanical irritation to eyes and skin. Ingestion may cause transient irritation of throat, stomach and gastrointestinal tract. Inhalation may cause coughing, nose and throat irritation, and sneezing. High exposures may cause difficulty breathing, congestion, and chest tightness.

<b>Carcinogens:</b>						
	<b>ACGIH</b>	<b>NIOSH</b>	<b>OSHA</b>	<b>IARC</b>	<b>NTP</b>	<b>MEXICO</b>
<b>Fiber Glass (continuous filament, non-respirable)</b>	A4 Not Classifiable as a Human Carcinogen	No Data	No Data	Group 3 - Not Classifiable as to its Carcinogenicity to Humans.	No Data	No Data

**Applies to Product :**

Sensitization:

No information available.

Mutagenicity:

No information available.

Reproductive Toxicity:

No information available.

Teratogenicity:

No information available.

Neurological Effects:

No information available.

---

---

**SECTION 12 - ECOLOGICAL INFORMATION**

---

---

**Applies to Product :**

Ecotoxicity:

This material is not expected to cause harm to animals, plants or fish.

Bioaccumulation:

Not available.

Biodegradation:

Not available.

Mobility In Environmental Media: Not available.

---

---

**SECTION 13 - DISPOSAL CONSIDERATIONS**

---

---

**Applies to Product :**

Waste Disposal:

Dispose of in accordance with Local, State, Federal and Provincial regulations.

Contaminated Packaging:

Empty containers should be taken for local recycling, recovery or waste disposal.

RCRA Number:

No EPA Waste Numbers are applicable for this product's components.

RCRA Characteristics:

This material is not expected to be a characteristic hazardous waste under RCRA.

---

---

**SECTION 14 - TRANSPORT INFORMATION**

---

---

DOT Shipping Name: Not Regulated.  
 IATA Shipping Name: Not Regulated.  
 Canadian Shipping Name: Not Regulated.  
 IMDG Shipping Name : Not Regulated.  
 ADR Shipping Name : Not Regulated.  
 RID Shipping Name : Not Regulated.  
 ICAO Shipping Name: Not Regulated.  
 MEX Shipping Name : Not Regulated.

**SECTION 15 - REGULATORY INFORMATION**

**Inventory Status**

	Japan ENCS	EINECS Number	PICCS	China	South Korea KECL
Fiber Glass (continuous filament, non-respirable)	Not listed	266-046-0	Listed	Listed	KE-17630

	Australia AICS	Canada DSL	TSCA Inventory Status		
Fiber Glass (continuous filament, non-respirable)	Listed	Listed	Listed		

**Applies to Product :**

Canada Reg. Status: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.  
 Canada WHMIS: Not controlled.  
 CA PROP 65: The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This product does not contain any Proposition 65 chemicals.  
 SARA: This product does not contain any chemicals which are subject to the reporting requirements of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III (40CFR, Part 372).  
 Section 311/312 Hazard Categories: Acute Health Hazard: Yes  
 Chronic Health Hazard: No  
 Risk of ignition: No  
 Sudden Release of Pressure Hazard: No  
 Reactive Hazard: No  
 Clean Air Act: This product does not contain any Hazardous Air Pollutants (HAPs).

**State Right To Know**

	RI	MN	IL	PA	MA
Fiber Glass (continuous filament, non-respirable)	No Data	Listed	No Data	No Data	No Data

	NJ				
Fiber Glass (continuous filament, non-respirable)	No Data				

---

---

## SECTION 16 - ADDITIONAL INFORMATION

---

---

HMIS Health Hazard:	1
HMIS Fire Hazard:	0
HMIS Reactivity:	0
HMIS Personal Protection:	X
MSDS Creation Date:	February 25, 1997
MSDS Revision Date:	September 25, 2007
MSDS Revision Notes:	Format Update
MSDS Author:	KK
Disclaimer:	Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.

Copyright© 1996-2008 Actio Software Corporation. All Rights Reserved.

---



# MATERIAL SAFETY DATA SHEET

Syrgis Performance  
Initiators, Inc.  
Helena, AR

## NOROX<sup>®</sup> MEKP-9H

### SECTION 1 - IDENTIFICATION OF THE PRODUCT AND THE COMPANY

PRODUCT NAME	NOROX <sup>®</sup> MEKP-9H	TELEPHONE	870-572-2935
MANUFACTURER	Syrgis Performance Initiators, Inc.	CHEMTREC (24hr) (USA)	800-424-9300
ADDRESS	334 Phillips 311 Rd., Helena, AR 72342	(Maritime/International)	703-527-3887
CHEMICAL NAME	Methyl Ethyl Ketone Peroxide (MEKP)	CAS NO.	See Section 2
CHEMICAL FAMILY	Organic Peroxide - Ketone Peroxide	CHEMICAL FORMULA	Mixture

### SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	%
Methyl Ethyl Ketone Peroxide	1338-23-4	32 - 35
Dimethyl Phthalate	131-11-3	35 - 60
Phlegmatizer	Proprietary	6 - 26
Hydrogen Peroxide	7722-84-1	1
Methyl Ethyl Ketone	78-93-3	0 - 2
Water	7732-18-5	1

### SECTION 3 - HAZARD IDENTIFICATION OF THE PREPARATION

PHYSICAL HAZARDS	Organic Peroxide. Decomposition.
HEALTH HAZARDS	Severe Irritant.
EXPOSURE LIMITS	The ACGIH Ceiling STEL is 1.5 mg/m <sup>3</sup> (0.2 ppm) for Methyl Ethyl Ketone Peroxide.
ROUTES OF EXPOSURE	
Skin Contact	Severe skin irritant, causes redness, blistering, and edema.
Eye Contact	Eye contact causes severe corrosion and may cause blindness.
Ingestion	Human systemic effects by ingestion: changes in structure or function of esophagus, nausea, or vomiting, and other gastrointestinal effects.
Inhalation	Moderately toxic by inhalation.
EFFECTS OF OVER-EXPOSURE	Prolonged inhalation of vapors may cause mucous membrane irritation and vertigo. There are no known medical conditions, which are recognized as being aggravated by exposure.

### SECTION 4 - FIRST-AID MEASURES

Skin	Immediately remove any contaminated clothing. Wash contaminated area thoroughly with soap and copious amounts of water for at least 15 minutes. If irritation or adverse symptoms develop, seek medical attention.
Eyes	Remove any contact lenses at once. Flush eyes with water for at least 15 minutes. Ensure adequate flushing by separating the eyelids with fingers. If irritation or adverse symptoms develop, seek medical attention.
Ingestion	Do Not induce vomiting. Drink plenty of water. Immediately call a physician. For aid to physician, suggest local Poison Control Center.
Inhalation	Remove to fresh air. If coughing, breathing becomes labored, irritation develops or other symptoms develop, seek medical attention at once, even if symptoms develop several hours after the exposure.

### SECTION 5 - FIRE-FIGHTING MEASURES

FLASH POINT	>200°F (93°C) C.O.C.
FLAMMABLE LIMITS	Not established.
AUTOIGNITION POINT	Not established.
EXTINGUISHING MEDIA	Water from a safe distance - preferably with a fog nozzle. In case of very small fires, other means such as carbon dioxide, foam or dry chemical extinguishers may be effective. Dry chemical combined with MEKP formulations may re-ignite. Light water additives may be particularly effective at extinguishing MEKP fires.
SPECIAL FIRE FIGHTING PROCEDURES	Firemen should be equipped with protective clothing and SCBA's. In case of fire near storage area, cool the containers with water spray. If dry chemical is used to extinguish an MEKP fire, the extinguished area must be thoroughly wetted down with water to prevent re-ignition.

# NOROX<sup>®</sup> MEKP-9H

## UNUSUAL FIRE AND EXPLOSION HAZARDS

The heat of decomposition of the peroxides adds to the heat of the fire. Dry chemical fire extinguishing agent may catalyze the decomposition.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

### STEPS TO BE TAKEN IN EVENT OF SPILL OR RELEASE

Dike spill to prevent runoff from entering drains, sewers, streams, etc. Wet spilled material with water and absorb with an inert absorbent material such as perlite, vermiculite, or sand. Sweep up using non-sparking tools and place in a clean polyethylene drum or a polyethylene pail. **DO NOT** place into a steel container, lined or unlined, as a decomposition may occur. Treat any contaminated cardboard packaging as hazardous waste. Wet container contents with additional water prior to sealing.

## SECTION 7 - HANDLING AND STORAGE

### HANDLING

Rotate stock using the oldest material first. Avoid contact with skin, eyes and clothing. Use PPE as specified in Section 8. Keep containers closed to prevent contamination. Keep away from sources of heat, sparks or flame. Do not add to hot solvents or monomers as a violent decomposition and/or reaction may result. When using spray equipment, never spray raw MEKP onto curing or into raw resin or flues. Keep MEKP in its original container. **DO NOT USE NEAR FOOD OR DRINK.** Wash thoroughly after handling.

### STORAGE

The stability of MEKP formulations is directly related to the shipping and storage temperature history. Cool storage at 80°F or below is recommended for longer shelf life and stability. Prolonged storage at elevated temperatures of 100°F and higher will cause product degradation, gassing and potential container rupture which can result in a fire and/or explosion. Store out of direct sunlight in a well ventilated area away from combustible and incompatible materials. **DO NOT STORE WITH FOOD OR DRINK.** Refer to NFPA 432 Code for the Storage of Organic Peroxide Formulations from the National Fire Protection Association for additional storage information.

### OTHER PRECAUTIONS

Unmixed, uncontaminated material, remaining at the end of the day, shall be returned to a proper organic peroxide storage area. Under no circumstances should material be returned to the original container.

## SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

### VENTILATION

Mechanical, general.

### RESPIRATORY PROTECTION

If airborne concentrations are expected to exceed acceptable levels wear a NIOSH approved air-purifying respirator with an organic vapor cartridge or canister. When using respirators refer to OSHA's 29CFR 1910.134.

### EYE PROTECTION

Safety goggles recommended. Permanent eyewash is highly recommended.

### HAND PROTECTION

Protective gloves recommended, solvent resistant, such as butyl rubber, nitrile or neoprene.

### OTHER

A safety shower and eyewash is recommended when the risk of a significant exposure exists.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

### APPEARANCE AND ODOR:

Water white liquid with a slight odor.

### BOILING POINT:

Not established.

### SPECIFIC GRAVITY:

1.1

### VAPOR PRESSURE:

Not established.

### FLASH POINT:

>200°F (93°C) C.O.C.

### VAPOR DENSITY:

> 1

### FLAMMABLE LIMITS:

Not established.

### EVAPORATION RATE:

Not established.

### SADT:

>60°C (140°F)

### % VOLATILE BY VOLUME:

Not established.

### pH:

Not applicable.

### SOLUBILITY IN WATER:

Slightly soluble in water.

## SECTION 10 - STABILITY AND REACTIVITY

### STABILITY

Stable when kept in original, closed container, out of direct sunlight at temperatures below 80°F (27°C).

### CONDITIONS TO AVOID

Contamination. Direct sunlight. Open flames. Prolonged storage above 100°F (38°C). Storage above SADT. Storage near flammable or combustible materials.

**NOROX® MEKP-9H**

MATERIALS TO AVOID	Dimethylaniline, cobalt naphenate and other promoters, promoted resins, accelerators, oxidizing and reducing agents, strong acids, bases, metals, metal alloys and salts, sulfur compounds, amines or any hot material.
HAZARDOUS DECOMPOSITION PRODUCTS	Decomposition products are flammable. Acrid smoke and irritating fumes.
HAZARDOUS POLYMERIZATION	Will not occur.

**SECTION 11 - TOXICOLOGICAL INFORMATION****Methyl Ethyl Ketone Peroxide****Hazard Data:**

Inhalation: Rat--LC<sub>50</sub>: 200 ppm/4 hr, lung, thorax, respiration, or dyspnea; Mouse--LC<sub>50</sub>: 170 ppm/4 hr, lung, thorax, respiration, or dyspnea.

Intraperitoneal: Rat--LD<sub>50</sub>: 65 mg/kg, behavioral, muscle weakness behavioral, ataxia.

Oral: Rat--LD<sub>50</sub>: 484 mg/kg; Mouse--LD<sub>50</sub>: 470 mg/kg; Human--TD<sub>Lo</sub>: 480 mg/kg, changes in structure or function of esophagus gastrointestinal, nausea or vomiting gastrointestinal.

Skin: Rabbit--LD<sub>50</sub>: 500 mg.

**Dimethyl Phthalate****Hazard Data:**

Inhalation: Cat--LC<sub>Lo</sub>: 9300 mg/m<sup>3</sup>/6.5 hr.

Intraperitoneal: Mouse--LD<sub>50</sub>: 1380 mg/kg.

Oral: Rat & Mouse--LD<sub>50</sub>: 6800 mg/kg, somnolence behavioral, withdrawal nutritional and gross metabolic, weight loss or decreased weight gain; Dog--LD: >1400 mg/kg; Rabbit--LD<sub>50</sub>: 4400 µL/kg.

Subcutaneous: Mouse--LD<sub>Lo</sub>: 6500 mg/kg, dyspnea lung, thorax, respiration, or cyanosis.

**Proprietary Phlegmatizer****Hazard Data:**

Eye: Rabbit: 93 mg, severe.

Inhalation: Human--TC<sub>Lo</sub>: 50mg/kg, eye effects, nose effects, and pulmonary system effects.

Intraperitoneal: Rat--LD<sub>Lo</sub>: 1500mg/kg; Mouse--LD<sub>50</sub>: 1299 mg/kg.

Oral: Rat--LD<sub>50</sub>: >3200 mg/kg.

Skin: Rabbit: 456 mg/24H, moderate; Rabbit--LD<sub>50</sub>: 8560 mg/kg.

**Hydrogen Peroxide****Hazard Data:**

Inhalation: Mouse--LC<sub>Lo</sub>: 227 ppm; Rat--TC<sub>Lo</sub>: 67 ppm/6hr/6W-1, dermatitis, irritative of the skin.

Intraperitoneal: Mouse--LD<sub>50</sub>: 880 mg/kg.

Intravenous: Rabbit--LD<sub>50</sub>: 15 gm/kg, behavioral, convulsions or effect on seizure threshold.

Oral: Rat--LD<sub>50</sub>: 376 mg/kg, gastrointestinal, peritonitis blood, pigmented or nucleated red blood cells; Mouse--LD<sub>50</sub>: 2 mg/kg.

Subcutaneous: Rat--LD<sub>50</sub>: 620 mg/kg; Mouse--LD<sub>50</sub>: 1072 mg/kg.

Skin: Rat--LD<sub>50</sub>: 4060 mg/kg, lung, thorax, respiration, or pulmonary emboli; Rabbit--LD<sub>Lo</sub>: 500 mg/kg, behavioral, convulsions or effect on seizure threshold.

**Methyl Ethyl Ketone****Hazard Data:**

Eye: Human: 350 ppm.

Inhalation: Rat--LC<sub>50</sub>: 23500 mg/m<sup>3</sup>/8hr.

Intraperitoneal: Rat--LD<sub>50</sub>: 607 mg/kg; Mouse--LD<sub>50</sub>: 616 mg/kg.

Oral: Rat--LD<sub>50</sub>: 2737 mg/kg; Mouse--LD<sub>50</sub>: 4050 mg/kg.

Skin: Rabbit--LD<sub>50</sub>: 6480 mg/kg.

**SECTION 12 - ECOLOGICAL INFORMATION**

No data is available on the preparation itself. The product should be prevented from entering drains, sewers, streams, etc.

Ecotoxicity: Methyl ethyl ketone peroxide: EC<sub>50</sub> (Guppy), 44.2 mg/L/96 hr, EC<sub>50</sub> (alga), 42,700 µg/L/96 hr.

Environmental Fate: Methyl ethyl ketone peroxide (MEKP) was evaluated for biodegradability in a closed bottle system and was reported to be readily biodegradable. An EC<sub>50</sub> of 16mg MEKP/L activated sludge was reported in an activated sludge respiration inhibition test.

**SECTION 13 - DISPOSAL CONSIDERATIONS**

Prevent material from entering drains, sewers, streams, etc.



**NOROX® MEKP-9H**

Immediately dispose of waste material at a RCRA approved hazardous waste management facility in accordance with federal, state and local regulations.

**SECTION 14 - TRANSPORT INFORMATION**

DOT Shipping Name: ORGANIC PEROXIDE TYPE D, LIQUID  
(METHYL ETHYL KETONE PEROXIDE, ≤45%)  
DOT Hazard Class: 5.2  
UN/NA ID No.: UN3105  
DOT Packing Group: PG II  
DOT RQ: RQ (if shipping container is greater than 29.4 lbs)  
Labels: 5.2 (Organic Peroxide)  
2004 ERG GUIDE NO.: 145

**SECTION 15 - REGULATORY INFORMATION**

The following chemicals are 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>Percent</u>
Dimethyl Phthalate	131-11-3	35 - 60
Methyl Ethyl Ketone	78-93-3	0 - 2

**Reportable Quantity**

2-Butanone Peroxide (MEKP): 10 lbs (4.54 kg)

**Australian Inventory of Chemical Substances (AICS)**

The ingredients in this product are listed in the Australian AICS Inventory.

**Canadian Domestic Substances List (DSL)**

The ingredients in this product are listed in the Canadian DSL Inventory.

**Chinese Inventory of Existing Chemical Substances Manufactured or Imported in China (IECSC)**

The ingredients in this product are listed in the Chinese IECSC Inventory.

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

The ingredients in this product are listed in the European EINECS Inventory.

**Japanese Existing and New Chemical Substances (ENCS)**

The ingredients in this product are listed in the Japanese ENCS Inventory.

**Korean Existing Chemicals List (ECL)**

The ingredients in this product are listed in the Korean ECL Inventory.

**US Toxic Substances Control Act (TSCA)**

The ingredients in this product are listed in the US TSCA Inventory.

**Status of Carcinogenicity**

Not recognized as a carcinogen by the IARC, NTP or OSHA.

**SECTION 16 - OTHER INFORMATION****VOC Information**

Using ASTM Test Method D-2369-87, but at 40°C (since MEKP decomposes rapidly above 100°C and is not a VOC), MEKP-9H contains 3.7% VOC, by weight, or 41 grams per liter. For more information call Syrgis Performance Initiators, Inc.

**NFPA 432 Organic Peroxide Classification**

Class III

**NFPA 704 Rating**

<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>	<u>HMIS Rating Health</u>	<u>Flammability</u>	<u>Reactivity</u>
3	2	2	3	2	2

MSDS Reference: MEKP-9H MSDS 0805

**DISCLAIMER OF LIABILITY**

The information in this MSDS was obtained from sources, which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness.

# NOROX<sup>®</sup> MEKP-9H

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use, or disposal of the product.  
This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.