



MATERIAL SAFETY DATA SHEET

ALSAN 2K ZERO

PART A

HMIS	PROTECTIVE CLOTHING	TRANSPORT OF DANGEROUS GOODS								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr style="background-color: #0056b3; color: white;"> <td style="text-align: center; padding: 2px;">2</td> <td style="padding: 2px;">HEALTH</td> </tr> <tr style="background-color: #ff0000; color: white;"> <td style="text-align: center; padding: 2px;">1</td> <td style="padding: 2px;">FLAMMABILITY</td> </tr> <tr style="background-color: #ff8c00; color: white;"> <td style="text-align: center; padding: 2px;">1</td> <td style="padding: 2px;">REACTIVITY</td> </tr> <tr style="background-color: #cccccc;"> <td style="text-align: center; padding: 2px;">G</td> <td style="padding: 2px;">PROTECTIVE EQUIPMENT</td> </tr> </table>	2	HEALTH	1	FLAMMABILITY	1	REACTIVITY	G	PROTECTIVE EQUIPMENT		NOT REGULATED
2	HEALTH									
1	FLAMMABILITY									
1	REACTIVITY									
G	PROTECTIVE EQUIPMENT									

SECTION II. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name:	Alsas 2K Zero Part A
Product number:	D30105
Use:	First component of two component polyurethane resin
Manufacturer:	Soprema Inc. 1675 Haggerty Street Drummondville (Quebec) J2C 5P7 Canada 819-478-8163
Distributor:	Soprema, USA 310 Quadral Drive Wadsworth, Ohio 44281 UNITED STATES
In case of emergency:	SOPREMA (8:00am to 5:00pm - Eastern time): (800) 356-3521 CHEMTREC (USA) (24h.): (800) 424-9300 Point Center: (800) 222-1222

EMERGENCY OVERVIEW!!!

May be fatal if inhaled. Causes eye, skin and respiratory irritation. This product contains isocyanates. May cause allergic skin reaction. May cause allergic or asthmatic symptoms or breathing difficulties if inhaled. Persons who are allergic to isocyanates should avoid contact with this product. Suspected of causing cancer. Contains toluene diisocyanate which has caused cancer in laboratory animals.

SECTION II. COMPOSITION AND INFORMATION ON DANGEROUS INGREDIENTS

Component	CAS#	% by weight
2-Ethylhexyl diphenyl phosphate	1241-94-7	10 - 30
Toluene diisocyanate (TDI)	26471-62-5	< 1.2 (Part A + Part B) before curing
1,4-Butanediol	110-63-4	1 - 5
Triphenyl phosphate	115-86-6	1 - 5

SECTION III. POTENTIAL HEALTH EFFECTS*Effects of Short-Term (Acute) Exposure***INHALATION:**

Toxic if inhaled. Breathing vapors may cause irritation of the nose, throat and upper respiratory tract and central nervous system effects such as dizziness and intoxication. May cause allergic respiratory reaction in individuals who are sensitized to isocyanates. Symptoms may include eye irritation, sore throat, nasal discharge, coughing, difficulty breathing and a feeling of tightness in the chest. Fever, chills, headache and fatigue may also occur. Effects may be delayed. Severe exposures may cause inflammation of the lung (chemical pneumonitis), asthmatic symptoms with wheezing and accumulation of fluid in the lungs (pulmonary edema) which can be fatal.

SKIN CONTACT:

May cause irritation, skin discoloration and hardening of the skin. May cause allergic skin reaction (rash, itching and swelling). Skin contact may also cause an allergic respiratory reaction as described under inhalation.

EYE CONTACT:

Causes irritation of the eyes with redness, pain and tearing. Corneal injury is possible.

INGESTION:

Ingestion may cause mouth, throat and gastrointestinal irritation.

*Effects of Long-Term (Chronic) Exposure***RESPIRATORY SENSITIZATION:**

Repeated inhalation may cause sensitization with allergic reaction or asthmatic symptoms upon future exposure. Sensitized individuals react to very low concentrations of TDI, below 0.001 ppm. Symptoms can occur immediately following exposures or can be delayed for several hours. Death has occurred in individuals accidentally exposed to low concentrations of TDI. Exposure to TDI can also cause hypersensitivity pneumonitis (an allergic lung disease) with symptoms of fever, shortness of breath, malaise, cough and chills. Chronic exposure to TDI may also cause impaired lung capacity. Cross sensitivity to other isocyanates may occur.

SKIN SENSITIZATION:

Repeated skin contact may cause sensitization with allergic reaction upon future exposure.

CARCINOGENICITY:

TDI is listed as a possible human carcinogen (group 2B) by IARC and as reasonably anticipated to be a carcinogen by NTP. None of the other components is listed as a carcinogen or suspected carcinogen by IARC, NTP or OSHA.

TERATOGENICITY, EMBRYOTOXICITY, FETOTOXICITY:

None of the components are known to cause effects on the unborn child.

REPRODUCTIVE TOXICITY:

None of the components are known to cause effects on reproduction.

MUTAGENICITY:

None of the components are known to be mutagenic.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Employees with pre-existing eye, skin and respiratory disease may be at increased risk from exposure. Individuals who are sensitive to isocyanates should not be exposed to this product.

ACUTE TOXICITY DATA:

2-Ethylhexyl diphenyl phosphate: LD₅₀ oral rat 7500 mg/kg; LD₅₀ dermal rabbit >7900 mg/kg.
Toluene diisocyanate: LD₅₀ oral rat 3060 mg/kg; LC₅₀ inhalation rat 57 mg/m³/1 hr, 99 mg/m³/4 hr
1,4-Butanediol: LD₅₀ oral rat 1830 mg/kg, LD₅₀ dermal rat >5000 mg/kg
Triphenyl phosphate: LD₅₀ oral rat 10800 mg/kg, LD₅₀ dermal rat >7900 mg/kg

SECTION IV. FIRST AID MEASURES	
SKIN	Wash skin thoroughly with soap and water after handling. Get medical attention if irritation or rash develop. Remove and launder contaminated clothing before reuse.
EYES	Immediately flush victim's eyes with large quantities of water for at least 15 minutes, holding the eyelids apart. Remove contact lenses if present after the first 5 minutes and continue flushing. Get immediate medical attention.
INHALATION	Remove victim to fresh air. If breathing is difficult, have qualified personnel administer oxygen. If breathing has stopped, administer CPR. Get immediate medical attention.
INGESTION	Do not induce vomiting. If the victim is conscious and alert, rinse the mouth with a small amount of water. Get immediate medical advice by calling a poison center or hospital emergency department.

SECTION V. FIRE-FIGHTING MEASURES	
Extinguishing media	Use carbon dioxide, dry chemical, water spray or foam. If water or foam is used, large amounts should be used as this product will react with water, generating heat and carbon dioxide.
Special fire fighting procedures	Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Do not get water inside containers. Do not breathe combustion products. Do not release water from firefighting to sewers or waterways.
Unusual fire or explosion hazards	This product is combustible but will not burn readily. This material can burn if strongly heated. Can release vapors that form explosive mixture with air at or above 162 °F (72 °C).
Hazardous combustion products	Oxides of carbon, nitrogen and phosphorus, isocyanate vapors, hydrogen cyanide, amines and various hydrocarbons.

SECTION VI. ACCIDENTAL RELEASE MEASURES	
RELEASE OR SPILL: Wear appropriate protective clothing as described in Section 8. Eliminate all ignition sources. Ventilate the area. Stop leak if you can do so without risk. Contain spill and absorb with an inert, non-combustible absorbent material (dry earth, sand, commercial absorbent). Carefully sweep up or shovel, avoiding creating airborne dust. Place in appropriate containers for disposal. Do not seal containers as chemical reaction that may generate carbon dioxide may rupture closed containers. Decontaminate the spill area with soap and water. Collect washings for proper disposal. Prevent spill from entering sewers and water courses. Report releases as required by local, state and federal authorities.	

SECTION VII. HANDLING AND STORAGE	
HANDLING: Avoid contact with the eyes, skin and clothing. Do not breathe aerosols and vapors. Wear protective clothing and equipment as described in Section 8. Use only with adequate ventilation. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep away from excessive heat, flames and other sources of ignition. Persons with asthma or known sensitivity to isocyanates should not be exposed to this product. Keep product away from water and moisture. Do not reuse containers. Empty containers retain product residues can be hazardous. Follow all MSDS precautions when handling empty containers. Do not cut, drill, weld, braze, etc. on or near containers, even empty containers. Residue inside containers may ignite explosively leading to injury or death.	
STORAGE: Store in a cool, dry, well ventilated area away from heat, direct sunlight, water, moisture and incompatible materials. Store in accordance with local and federal fire codes. Use proper labeling in accordance with 29CFR1910.1200 regulation.	

SECTION VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION	
EXPOSURE GUIDELINES	
2-Ethylhexyl diphenyl phosphate	None established
Toluene diisocyanate (TDI)	0.005 ppm TWA; 0.02 ppm STEL ACGIH TLV; 0.02 ppm Ceiling OSHA PEL
1,4-Butanediol	None established
Triphenyl phosphate	3 mg/m ³ TWA ACGIH TLV

SECTION VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION

HANDS	Wear impervious gloves such as butyl rubber, teflon or viton to avoid skin contact. Wear protective clothing as needed to avoid skin contact and prevent contamination of personal clothing.
RESPIRATORY	In operations where exposure limits are exceeded or exposure levels are unknown, a NIOSH or other authority approved supplied air respirator appropriate for the form and concentration of the contaminants should be used. Air-purifying respirators may be used under some conditions with a cartridge change schedule that is based on the expected airborne exposure levels. Since MDI is odorless, the odor threshold for MDI cannot be used to detect unsafe conditions. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 or other applicable regulations and good industrial hygiene practice.
EYES	Chemical safety goggles recommended.
ENGINEERING CONTROLS	Use with adequate ventilation to maintain exposure levels below the occupational exposure limits.

SECTION IX. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM	Liquid
COLOR	Semi-transparent liquid
ODOR	The odor threshold for TDI is 0.4 ppm
AUTO IGNITION TEMPERATURE	Not available
FLASH POINT	273 °F (134 °C)
VAPOR DENSITY	Heavier than air
SPECIFIC GRAVITY	1.08 g/c ³
MELTING POINT	Not determined
EVAPORATION RATE	Not available
BOILING POINT	Not available
VAPOR PRESSURE	0.023 mmHg
pH	Not applicable
SOLUBILITY IN WATER	Insoluble but may react
EXPLOSION DATA	Not sensitive to mechanical impact or static charge.
VOC CONTENT	41 g/L (Part A + Part B)
OCTANOL/WATER COEFFICIENT	Not available

SECTION X. STABILITY AND REACTIVITY**STABILITY:**

Stable under recommended storage and handling conditions.

INCOMPATIBILITY:

Avoid excessive heat. Avoid contact with strong oxidizing agents, acids, bases, amines, alcohols, metal compounds such as organotin or organometallic catalysts, amides, phenols, mercaptans, urethanes, ureas and surface active agents such as detergents. Avoid contact with water and moisture.

HAZARDOUS DECOMPOSITION PRODUCTS:

Combustion will produce carbon dioxide, carbon monoxide, oxides of nitrogen and hydrogen cyanide. Reacts with water and other incompatible materials generating heat and carbon dioxide which may rupture containers. Above 50°C the reaction become progressively more vigorous.

HAZARDOUS POLYMERIZATION:

TDI may undergo uncontrollable exothermic polymerization upon contact with water at elevated temperatures or other materials which react with TDI.

SECTION XI. TOXICOLOGICAL INFORMATION

Effects of Short-Term (Acute) Exposure

INHALATION:

Toxic if inhaled. Breathing vapors may cause irritation of the nose, throat and upper respiratory tract and central nervous system effects such as dizziness and intoxication. May cause allergic respiratory reaction in individuals who are sensitized to isocyanates. Symptoms may include eye irritation, sore throat, nasal discharge, coughing, difficulty breathing and a feeling of tightness in the chest. Fever, chills, headache and fatigue may also occur. Effects may be delayed. Severe exposures may cause inflammation of the lung (chemical pneumonitis), asthmatic symptoms with wheezing and accumulation of fluid in the lungs (pulmonary edema) which can be fatal.

SKIN CONTACT:

May cause irritation, skin discoloration and hardening of the skin. May cause allergic skin reaction (rash, itching and swelling). Skin contact may also cause an allergic respiratory reaction as described under inhalation.

EYE CONTACT:

Causes irritation of the eyes with redness, pain and tearing. Corneal injury is possible.

INGESTION:

Ingestion may cause mouth, throat and gastrointestinal irritation.

Effects of Long-Term (Chronic) Exposure

RESPIRATORY SENSITIZATION:

Repeated inhalation may cause sensitization with allergic reaction or asthmatic symptoms upon future exposure. Sensitized individuals react to very low concentrations of TDI, below 0.001 ppm. Symptoms can occur immediately following exposures or can be delayed for several hours. Death has occurred in individuals accidentally exposed to low concentrations of TDI. Exposure to TDI can also cause hypersensitivity pneumonitis (an allergic lung disease) with symptoms of fever, shortness of breath, malaise, cough and chills. Chronic exposure to TDI may also cause impaired lung capacity. Cross sensitivity to other isocyanates may occur.

SKIN SENSITIZATION:

Repeated skin contact may cause sensitization with allergic reaction upon future exposure.

CARCINOGENICITY:

TDI is listed as a possible human carcinogen (group 2B) by IARC and as reasonably anticipated to be a carcinogen by NTP. None of the other components is listed as a carcinogen or suspected carcinogen by IARC, NTP or OSHA.

TERATOGENICITY, EMBRYOTOXICITY, FETOTOXICITY:

None of the components are known to cause effects on the unborn child.

REPRODUCTIVE TOXICITY:

None of the components are known to cause effects on reproduction.

MUTAGENICITY:

None of the components are known to be mutagenic.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Employees with pre-existing eye, skin and respiratory disease may be at increased risk from exposure. Individuals who are sensitive to isocyanates should not be exposed to this product.

ACUTE TOXICITY DATA:

2-Ethylhexyl diphenyl phosphate: LD₅₀ oral rat 7500 mg/kg; LD₅₀ dermal rabbit >7900 mg/kg.
Toluene diisocyanate: LD₅₀ oral rat 3060 mg/kg; LC₅₀ inhalation rat 57 mg/m³/1 hr, 99 mg/m³/4 hr
1,4-Butanediol: LD₅₀ oral rat 1830 mg/kg, LD₅₀ dermal rat >5000 mg/kg
Triphenyl phosphate: LD₅₀ oral rat 10800 mg/kg, LD₅₀ dermal rat >7900 mg/kg

SECTION XII. ECOLOGICAL INFORMATION

The following ecotoxicity data is available for the components of this product. The environmental properties have not been thoroughly investigated. Releases to the environment should be avoided. It is unlikely that significant environmental exposure in the air or water will arise based on consideration of the production and use of the substance.

Immiscible with water, but will react with water to produce inert and non-biodegradable solids.
Triphenyl phosphate: LC₅₀ Fathead Minnow 0.87 mg/L/96 hr. LC₅₀ rainbow trout 0.3 mg/L/96 hr.
2-Ethylhexyl diphenyl phosphate: EC₅₀ Daphnia Magna 0.15 mg/L/48 hr.

SECTION XIII. DISPOSAL CONSIDERATIONS

Waste disposal:

Dispose in accordance with local, state and federal environmental regulations.

SECTION XIV. TRANSPORTATION INFORMATION

Transportation of Dangerous Goods Description:

NOT REGULATED

Note: Packages containing more than 2000 lbs of product must be shipped under RQ provisions. Bulk packagings (greater than 119 gallons/450 liters) and packages shipped by vessel must also be marked as a Marine Pollutant.

SECTION XV. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

CERCLA 103 Reportable Quantity: This product contains toluene diisocyanate which has a RQ of 100 lbs. Releases in excess of the RQ of 2000 lbs for the product must be reported to the National Response Center. Many states have more stringent spill reporting requirements. Report spill in compliance with all federal, state and local requirements.

SARA TITLE III:

Hazard Category for Section 311/312: Acute Health, Chronic Health

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: Toluene Diisocyanate 26471-62-5 1-5%

Section 302 Extremely Hazardous Substances (TPQ): Toluene Diisocyanate (100 lbs TPQ)

EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.

U. S. STATE REGULATIONS:

California Proposition 65: This product contains the following substances known to the State of California to cause cancer and/or reproductive harm: Toluene diisocyanate.

SECTION XVI. OTHER INFORMATION

Glossary:

ACGIH: American Conference of Governmental Industrial Hygienists

ANSI: American National Standards Institute

ASTM: American Society for Testing and Materials

CAS: Chemical Abstract Services

CFR: Code of Federal Regulations (United States)

CSA: Canadian Standardisation Association

DOT: Department of Transportation (United States)

DSL: Domestic Substances List (Canada)

EPA: Environmental Protection Agency (United States)

HMIS: Hazardous Material Information System

IARC: International Agency for Research on Cancer

LC50: (Lethal concentration₅₀) Concentration of a substance in air that causes death of 50% mortality of a defined animal population

LD50: (Lethal dose₅₀) Single dose of a substance that, when administered by a defined route in an animal assay, is expected to cause the death of 50% of a defined animal population.

NFPA: National Fire Protection Association (United States)

NIOSH: National Institute for Occupational Safety and Health

NTP: National Toxicology Program

OSHA: Occupational Safety & Health Administration (United States)

PEL: Permissible Exposure Limit

SECTION XVI. OTHER INFORMATION

Glossary:

RCRA: Resource Conservation and Recovery Act (United States)

RTECS: Registry of Toxic Effects of Chemical Substances

TDG: Transportation of Dangerous Goods

TLV: Threshold Limit Value

TWA: Time-weighted average

TSCA: Toxic Substances Control Act (United States)

WHMIS: Workplace Hazardous Materials Information System (Canada)

Reference:

Supplier MSDS

This MSDS has been prepared by: SOPREMA, INC.

For information: 800-543-3085

The Material Safety Data Sheets of SOPREMA are available on Internet at the following site: [HTTP://WWW.SOPREMA.US](http://www.soprema.us)

Justification of the update:

New MSDS.

This MSDS contains all the information required by ANSI Z-400.1-1998 standard (United States), by regulation 29 CFR Part 1910.1200 of the Hazard Communication Standard of OSHA, and is in accordance with standard DORS/88-66 OF WHMIS Canada.

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier or any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



MATERIAL SAFETY DATA SHEET

ALSAN 2K ZERO

PART B

HMIS	PROTECTIVE CLOTHING	TRANSPORT OF DANGEROUS GOODS								
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1	FLAMMABILITY									
1	REACTIVITY									
G	PROTECTIVE EQUIPMENT									

SECTION II. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name: Product number: Use: Manufacturer: Distributor: In case of emergency:	Alsan 2K Zero Part A D30103 and D30125 Second component of two component waterproofing polyurethane resin Soprema Inc. 1675 Haggerty Street Drummondville (Quebec) J2C 5P7 Canada 819-478-8163 Soprema, USA 310 Quadral Drive Wadsworth, Ohio 44281 UNITED STATES SOPREMA (8:00am to 5:00pm - Eastern time): (800) 356-3521 CHEMTREC (USA) (24h.): (800) 424-9300 Point Center: (800) 222-1222
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EMERGENCY OVERVIEW!!!

May be fatal if inhaled. Causes eye, skin and respiratory irritation. This product contains isocyanates. May cause allergic skin reaction. May cause allergic or asthmatic symptoms or breathing difficulties if inhaled. Persons who are allergic to isocyanates should avoid contact with this product. Suspected of causing cancer. Contains toluene diisocyanate which has caused cancer in laboratory animals.

SECTION II. COMPOSITION AND INFORMATION ON DANGEROUS INGREDIENTS

Component	CAS#	% by weight
2-Ethylhexyl diphenyl phosphate	1241-94-7	15 - 40
Titanium dioxide	13463-67-7	15 - 40
Urethane bis oxazolidine	59719-67-4	10 - 30
Calcium oxide	1305-78-8	1 - 5
Iron oxide	1317-61-9	1 - 5
Triphenyl phosphate	115-86-6	1 - 5

SECTION III. POTENTIAL HEALTH EFFECTS*Effects of Short-Term (Acute) Exposure***INHALATION:**

Breathing vapors may cause irritation of the nose, throat and upper respiratory tract and central nervous system effects such as dizziness and intoxication.

SKIN CONTACT:

May cause irritation.

EYE CONTACT:

Causes irritation of the eyes with redness, pain and tearing.

INGESTION:

Ingestion may cause mouth, throat and gastrointestinal irritation and central nervous system effects such as dizziness and intoxication.

*Effects of Long-Term (Chronic) Exposure***RESPIRATORY SENSITIZATION:**

This product contains titanium dioxide, iron oxide and calcium oxide. Chronic exposure to respirable dust of these materials may cause lung damage. Under normal conditions of use, this product is a liquid and a reacted polymer. No exposure to dust from these components will occur under normal conditions of use.

CARCINOGENICITY:

Titanium dioxide is listed as a possible human carcinogen (group 2B) by IARC. None of the other components is listed as a carcinogen or suspected carcinogen by IARC, NTP or OSHA.

TERATOGENICITY, EMBRYOTOXICITY, FETOTOXICITY:

None of the components are known to cause effects on the unborn child.

REPRODUCTIVE TOXICITY:

None of the components are known to cause effects on reproduction.

MUTAGENICITY:

None of the components are known to be mutagenic.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Employees with pre-existing eye, skin and respiratory disease may be at increased risk from exposure. Individuals who are sensitive to isocyanates should not be exposed to this product.

ACUTE TOXICITY DATA:

2-Ethylhexyl diphenyl phosphate: LD₅₀ oral rat 7500 mg/kg; LD₅₀ dermal rabbit >7900 mg/kg.

Titanium dioxide: LD₅₀ oral rat >10000 mg/kg; LC₅₀ inhalation rat >6.8 mg/L/1 hr

Urethane bis Oxazolidine: No data available

Calcium Oxide: No data available

Iron Oxide: No data available

Triphenyl phosphate: LD₅₀ oral rat 10800 mg/kg, LD₅₀ dermal rat >7900 mg/kg

SECTION IV. FIRST AID MEASURES

SKIN	Wash skin thoroughly with soap and water after handling. Get medical attention if irritation or rash develop. Remove and launder contaminated clothing before reuse.
EYES	Immediately flush victim's eyes with large quantities of water for at least 15 minutes, holding the eyelids apart. Remove contact lenses if present after the first 5 minutes and continue flushing. Get immediate medical attention.
INHALATION	Remove victim to fresh air. If breathing is difficult, have qualified personnel administer oxygen. If breathing has stopped, administer CPR. Get immediate medical attention.
INGESTION	Do not induce vomiting. If the victim is conscious and alert, rinse the mouth with a small amount of water. Get immediate medical advice by calling a poison center or hospital emergency department.

SECTION V. FIRE-FIGHTING MEASURES

Extinguishing media	Use carbon dioxide or dry chemical. If water or foam is used, large amounts should be used as this product will react with water, generating flammable vapors.
Special fire fighting procedures	Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Do not get water inside containers. Do not breathe combustion products. Do not release water from firefighting to sewers or waterways.
Unusual fire or explosion hazards	This product is combustible but will not burn readily. This material can burn if strongly heated. Can release vapors upon reaction with water or moisture in the air that form an explosive mixture with air.
Hazardous combustion products	Oxides of carbon and phosphorus and various hydrocarbons.

SECTION VI. ACCIDENTAL RELEASE MEASURES**RELEASE OR SPILL:**

Wear appropriate protective clothing as described in Section 8. Eliminate all ignition sources. Ventilate the area. Stop leak if you can do so without risk. Contain spill and absorb with an inert, non-combustible absorbent material (dry earth, sand, commercial absorbent). Carefully sweep up or shovel, avoiding creating airborne dust. Place in an appropriate containers for disposal. Decontaminate the spill area with soap and water. Collect washings for proper disposal. Prevent spill from entering sewers and water courses. Report releases as required by local, state and federal authorities.

SECTION VII. HANDLING AND STORAGE**HANDLING:**

Avoid contact with the eyes, skin and clothing. Avoid breathing vapors. Wear protective clothing and equipment as described in Section 8. Use only with adequate ventilation. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep away from excessive heat, flames and other sources of ignition. Keep product away from water and moisture.

Do not reuse containers. Empty containers retain product residues can be hazardous. Follow all MSDS precautions when handling empty containers. Do not cut, drill, weld, braze, etc. on or near containers, even empty containers. Residue inside containers may ignite explosively leading to injury or death.

STORAGE:

Store in a cool, dry, well ventilated area away from heat, direct sunlight, water, moisture and incompatible materials. Store in accordance with local and federal fire codes. Use proper labeling in accordance with 29CFR1910.1200 regulation.

SECTION VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION**EXPOSURE GUIDELINES**

2-Ethylhexyl diphenyl phosphate	None established
Titanium dioxide	10 mg/m ³ TWA ACGIH TLV; 15 mg /m ³ (total dust) TWA OSHA PEL
Urethane bis oxazolidine	None established
Calcium oxide	2 mg/m ³ TWA ACGIH TLV; 5 mg /m ³ TWA OSHA PEL
Iron oxide	5 mg/m ³ TWA ACGIH TLV (respirable); 10 mg /m ³ (as fume) TWA OSHA PEL
Triphenyl phosphate	3 mg/m ³ TWA ACGIH TLV

SECTION VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION

HANDS	Wear impervious gloves such as butyl rubber, teflon or viton to avoid skin contact. Wear protective clothing as needed to avoid skin contact and prevent contamination of personal clothing.
RESPIRATORY	In operations where exposure limits are exceeded or exposure levels are unknown, a NIOSH or other authority approved supplied air respirator appropriate for the form and concentration of the contaminants should be used. Air-purifying respirators may be used under some conditions with a cartridge change schedule that is based on the expected airborne exposure levels. Since MDI is odorless, the odor threshold for MDI cannot be used to detect unsafe conditions. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 or other applicable regulations and good industrial hygiene practice.
EYES	Chemical safety goggles recommended.
ENGINEERING CONTROLS	Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

SECTION IX. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM	Liquid
COLOR	White or grey liquid
ODOR	Not available
AUTO IGNITION TEMPERATURE	Not available
FLASH POINT	306 °F (152 °C)
VAPOR DENSITY	Heavier than air
SPECIFIC GRAVITY	1.6 g/c ³
MELTING POINT	Not determined
EVAPORATION RATE	Not available
BOILING POINT	Not available
VAPOR PRESSURE	Not available
pH	Not applicable
SOLUBILITY IN WATER	Insoluble but may react
EXPLOSION DATA	Not sensitive to mechanical impact
VOC CONTENT	41 g/L (Part A + Part B)
OCTANOL/WATER COEFFICIENT	Not available

SECTION X. STABILITY AND REACTIVITY**STABILITY:**

Stable under recommended storage and handling conditions.

INCOMPATIBILITY:

Avoid excessive heat. Avoid contact with strong oxidizing agents, acids and bases. Avoid contact with water and moisture.

HAZARDOUS DECOMPOSITION PRODUCTS:

Combustion will produce carbon dioxide and carbon monoxide. Reacts slowly with water to generate flammable and irritating isobutyraldehyde which may rupture containers.

HAZARDOUS POLYMERIZATION:

Will not occur

SECTION XI. TOXICOLOGICAL INFORMATION

Effects of Short-Term (Acute) Exposure

INHALATION:

Breathing vapors may cause irritation of the nose, throat and upper respiratory tract and central nervous system effects such as dizziness and intoxication.

SKIN CONTACT:

May cause irritation.

EYE CONTACT:

Causes irritation of the eyes with redness, pain and tearing.

INGESTION:

Ingestion may cause mouth, throat and gastrointestinal irritation and central nervous system effects such as dizziness and intoxication.

Effects of Long-Term (Chronic) Exposure

RESPIRATORY SENSITIZATION:

This product contains titanium dioxide, iron oxide and calcium oxide. Chronic exposure to respirable dust of these materials may cause lung damage. Under normal conditions of use, this product is a liquid and a reacted polymer. No exposure to dust from these components will occur under normal conditions of use.

CARCINOGENICITY:

Titanium dioxide is listed as a possible human carcinogen (group 2B) by IARC. None of the other components is listed as a carcinogen or suspected carcinogen by IARC, NTP or OSHA.

TERATOGENICITY, EMBRYOTOXICITY, FETOTOXICITY:

None of the components are known to cause effects on the unborn child.

REPRODUCTIVE TOXICITY:

None of the components are known to cause effects on reproduction.

MUTAGENICITY:

None of the components are known to be mutagenic.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Employees with pre-existing eye, skin and respiratory disease may be at increased risk from exposure. Individuals who are sensitive to isocyanates should not be exposed to this product.

ACUTE TOXICITY DATA:

2-Ethylhexyl diphenyl phosphate: LD₅₀ oral rat 7500 mg/kg; LD₅₀ dermal rabbit >7900 mg/kg.

Titanium dioxide: LD₅₀ oral rat >10000 mg/kg; LC₅₀ inhalation rat >6.8 mg/L/1 hr

Urethane bis Oxazolidine: No data available

Calcium Oxide: No data available

Iron Oxide: No data available

Triphenyl phosphate: LD₅₀ oral rat 10800 mg/kg, LD₅₀ dermal rat >7900 mg/kg

SECTION XII. ECOLOGICAL INFORMATION

The following ecotoxicity data is available for the components of this product. The environmental properties have not been thoroughly investigated. Releases to the environment should be avoided.

Triphenyl phosphate: LC₅₀ Fathead Minnow 0.87 mg/L/96 hr. LC₅₀ rainbow trout 0.3 mg/L/96 hr.

2-Ethylhexyl diphenyl phosphate: EC₅₀ Daphnia Magna 0.15 mg/L/48 hr.

SECTION XIII. DISPOSAL CONSIDERATIONS

Waste disposal:

Dispose in accordance with local, state and federal environmental regulations.

SECTION XIV. TRANSPORTATION INFORMATION

Transportation of Dangerous Goods Description: Ground Transportation - Non-Bulk

NOT REGULATED

SECTION XIV. TRANSPORTATION INFORMATION

Transportation of Dangerous Goods Description: Ground Transportation - : Bulk Transportation (greater than 119 gallons/450 L containers) or Transport by Vessel

Proper Shipping Name: Environmentally Hazardous Substance, liquid, n.o.s. (contains Triphenyl Phosphate)

UN Number: UN3082

Hazard Class/Packing Group: 9, III

Labels Required: Class 9, Marine Pollutant Mark

SECTION XV. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

CERCLA 103 Reportable Quantity: This product is not subject to CERCLA release reporting requirements. Many states have more stringent spill reporting requirements. Report spill in compliance with all federal, state and local requirements.

SARA TITLE III:

Hazard Category for Section 311/312: Acute Health, Chronic Health

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None

Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.

U. S. STATE REGULATIONS:

California Proposition 65: This product contains the following substances known to the State of California to cause cancer and/or reproductive harm: Crystalline Silica (quartz) <0.02%

SECTION XVI. OTHER INFORMATION

Glossary:

ACGIH: American Conference of Governmental Industrial Hygienists

ANSI: American National Standards Institute

ASTM: American Society for Testing and Materials

CAS: Chemical Abstract Services

CFR: Code of Federal Regulations (United States)

CSA: Canadian Standardisation Association

DOT: Department of Transportation (United States)

DSL: Domestic Substances List (Canada)

EPA: Environmental Protection Agency (United States)

HMIS: Hazardous Material Information System

IARC: International Agency for Research on Cancer

LC50: (Lethal concentration₅₀) Concentration of a substance in air that causes death of 50% mortality of a defined animal population

LD50: (Lethal dose₅₀) Single dose of a substance that, when administered by a defined route in an animal assay, is expected to cause the death of 50% of a defined animal population.

NFPA: National Fire Protection Association (United States)

NIOSH: National Institute for Occupational Safety and Health

NTP: National Toxicology Program

OSHA: Occupational Safety & Health Administration (United States)

PEL: Permissible Exposure Limit

RCRA: Resource Conservation and Recovery Act (United States)

RTECS: Registry of Toxic Effects of Chemical Substances

TDG: Transportation of Dangerous Goods

TLV: Threshold Limit Value

TWA: Time-weighted average

TSCA: Toxic Substances Control Act (United States)

WHMIS: Workplace Hazardous Materials Information System (Canada)

SECTION XVI. OTHER INFORMATION

Reference:

Supplier MSDS

This MSDS has been prepared by: SOPREMA, INC.

For information: 800-543-3085

The Material Safety Data Sheets of SOPREMA are available on Internet at the following site: [HTTP://WWW.SOPREMA.US](http://www.soprema.us)

Justification of the update:

New MSDS.

This MSDS contains all the information required by ANSI Z-400.1-1998 standard (United States), by regulation 29 CFR Part 1910.1200 of the Hazard Communication Standard of OSHA, and is in accordance with standard DORS/88-66 OF WHMIS Canada.

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier or any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.