SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION

Product Identifier	:	**ARDEX ARDISEAL™ RAPID PLUS (Part A)**
Product Code Number	:	12811021
Chemical Description	:	Mixture
Trade Name/Synonyms	:	ARDEX ARDISEAL PLUS (Part A)
Material Use	:	Semi-rigid joint sealant
Uses Advised Against	:	No information available.

Manufacturer's name and address:

ARDEX Engineered Cements
400 Ardex Park Dr.
Aliquippa, PA 15001 USA

Supplier's name and address
Same as manufacturer.

Information Telephone No.	:	(724) 203-5000
Website Address	:	http://www.ardexamericas.com
24 Hr Emergency Telephone #	:	**CHEM-TEL: 1-800-255-3924 OR 1-813-248-0585 (call collect)**

SECTION 2 – HAZARDS IDENTIFICATION

GHS Classification per 29 CFR 1910.1200 (OSHA HCS 2012) and HPR (WHMIS 2015)

Skin Corrosion/Irritation; Category 2
Sensitization, Dermal; Category 1
Serious Eye Damage/Eye Irritation; Category 2A
Acute Toxicity, Inhalation,' Category 4
Sensitization, Respiratory; Category 1
Specific target organ toxicity, single exposure; Category 3, Respiratory
Specific target organ toxicity, repeated exposure; Category 2

GHS Pictograms :

Signal Word : Danger

Hazard Statement :

Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
May cause damage to organs <lungs> through prolonged inhalations or repeated exposure.

Precautionary Statements : Do not handle until all safety precautions have been read and understood. Do not breathe vapors. Use only outdoors or in a well-ventilated area. In case of inadequate ventilation wear respiratory protection. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection. Wash hands and exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Store in a well-ventilated place. Keep container

tightly closed. Store locked up. Dispose of contents / container in accordance with federal, state, and local laws. Do not allow product to enter drains.

Hazards Not Otherwise Specified : Contains isocyanates.

% Unknown acute toxicity : Up to 70% of this product consists of ingredients with unknown acute toxicity.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	% (by weight)
Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer	53862-89-8	30 - 60
Methylene diphenyl diisocyanate (4,4'-MDI)	101-68-8	20 - 40
Diphenylmethane-2,4-diisocyanate (2,4-MDI)	5873-54-1	7 - 13

Exact percentages of the ingredients have been withheld by the manufacturer as trade secrets.

SECTION 4 – FIRST AID MEASURES

General Information : Call a POISON CENTER or doctor/physician if you feel unwell. Show the Safety Data Sheet to the medical personnel.

Inhalation : Move to an area free from further exposure. Get medical attention immediately. Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to 48 hours. Extreme asthmatic reactions can be life threatening.

Skin contact : Remove/Take off immediately all contaminated clothing. Wash/shower affected skin with soap and water for at least 20 minutes. Seek immediate medical attention/advice.

Eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.

Ingestion : Rinse mouth with water. Do NOT induce vomiting. Seek immediate medical attention/advice.

Notes for Physician : Treat symptomatically. Patients with respiratory exposure should be monitored up to 48 hours after exposure.

Signs and symptoms of short-term (acute) exposure

Inhalation : Isocyanate vapors or mist at concentrations above the TLV or PEL can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyper-reactivity can respond to concentrations below the TLV or PEL with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the TLV or PEL may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

Skin : Causes skin irritation with symptoms of reddening, itching, and swelling. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove. Contact with MDI can cause discoloration.

Eyes : Causes irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing.

Ingestion : May cause irritation; Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

Effects of long-term (chronic) exposure

: As a result of previous repeated overexposures or a single large dose, certain individuals may develop sensitization to diisocyanates (asthma or asthma-like symptoms) that may cause them to react to a later exposure to diisocyanates at

levels well below the TLV or PEL. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be immediate or delayed up to 48 hours after exposure. Extreme asthmatic reactions can be life threatening. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Sensitization can be permanent. Chronic overexposure to diisocyanates has also been reported to cause lung damage (including fibrosis, decrease in lung function) that may be permanent.

Prolonged contact can cause reddening, swelling, rash, and, in some cases, skin sensitization. Animal tests and other research indicate that skin contact with MDI can play a role in causing isocyanate sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates.

Indication of need for immediate medical attention or special treatment

: Difficulty breathing persists after removing the person to fresh air.

Any exposure to the skin causing a rash, swelling, itch, or pain.

Any exposure to the eye which causes irritation.

Ingestion.

SECTION 5 – FIRE FIGHTING MEASURES

Suitable extinguishing media : Dry chemical, carbon dioxide, foam.

Unsuitable extinguishing media : High pressure water jet may spread the fire. Isocyanates react with water to produce heat and evolve (non-flammable) gases.

Hazardous combustion products : Carbon monoxide carbon dioxide, nitrogen oxides, hydrogen cyanide, and/or low molecular weight hydrocarbons. Vapors/fumes are toxic.

Fire hazards/conditions of flammability

: Vapors will ignite at high temperatures. In a fire, this product will generate toxic vapors. High temperatures may cause containers to rupture.

Flammability classification (OSHA 29 CFR 1910.1200, WHMIS 2015)

: Not classified as flammable.

Special fire-fighting procedures/equipment

: Firefighters should wear NFPA compliant structural firefighting protective equipment, including self-contained breathing apparatus and NFPA compliant helmet, hood, boots and gloves. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse. During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Exposure to heated diisocyanate can be extremely dangerous.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions : See Section 7 for safe handling procedures. Wear chemically resistant personal protective equipment during cleanup. Restrict access to area until completion of clean-up. All persons dealing with clean-up must be properly trained and wear the appropriate chemically protective equipment. Refer to Section 8 on this Safety Data Sheet, EXPOSURE CONTROLS / PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

Environmental precautions : Do not allow product to enter waterways. Do not allow material to contaminate ground water system.

Spill response / clean-up : Ventilate area of release. Stop spill or leak at source if safely possible. Contain product with inert absorbent material, preventing it from entering sewer lines or waterways. Completely cover the spill area with suitable absorbent material (e.g., vermiculite, kitty litter, Oil-Dri®, etc.). Allow for the absorbent material to absorb the spilled liquid. Shovel the absorbent material into an approved metal container (i.e., 55-gallon salvage drum). Do not fill the container more than 2/3 full to allow for expansion, and do not tighten the lid on the container. Repeat application of absorbent material until all liquid has been removed from the surface.

After removing spilled material as described above, decontaminate surfaces involved with the spill using a neutralization solution (mix detergent floor cleaner [if a concentrate, dilute 1 part concentrate into 9 parts water] and about 10% household ammonia); scrubbing the surface with a broom or brush helps the decontamination solution to penetrate into porous surfaces. Use caution, as the surface may be slippery. Wait at least 15 minutes after first application of the neutralization solution. Cover the area with absorbent material and shovel this into an approved metal container. Note: Always wear proper PPE when cleaning up an isocyanate spill and using a neutralization solution. It may take two or more applications of the neutralization solution to decontaminate the surface. Clean up any detergent residue with fresh water.

With the lid still loosely in place, move the container holding the isocyanate waste and decontamination solution waste to an isolated, well-ventilated area to allow release of carbon dioxide. After 72 hours, seal the container, and properly dispose of the waste material in accordance with existing federal, state and local regulations.

Prohibited materials : Avoid strong oxidizing agents. Do not allow spilled material to mix with alcohols, amines (including polyols and polyamines), or water. Chemical reaction with these materials causes polymerization and release of heat energy.

Special spill response procedures : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8002). Outside of the U.S. call the emergency number listed in Section 1.

US CERCLA Reportable quantity (RQ): 101-68-8 Methylene diphenyl diisocyanate (4,4'-MDI) – 5000 lbs (2273 kg).

SECTION 7 – HANDLING AND STORAGE

Safe handling procedures : Do NOT get into eyes, on skin or on clothing. Do NOT breathe vapor. Do NOT swallow. Use only with adequate ventilation. Observe good hygiene standards. Do not eat, drink or smoke in the work area. Wash thoroughly after handling. Wear protective clothing to prevent skin contact. Promptly remove any clothing that becomes contaminated. Clean contaminated clothing before reuse. Keep container tightly closed.

Storage requirements : Store in a cool, dry, well-ventilated area. Store away from heat and open flame. Avoid storing in direct sunlight. Keep from freezing. Recommended storage temperature range is between 18 °C and 29 °C (65 °F and 85 °F). DO NOT EXCEED 49 °C/120 °F. Store in original container. Keep tightly closed when not in use. Do not reuse empty container without commercial cleaning or reconditioning.

Incompatible materials : See Section 10.

Special packaging materials : Always keep in containers made of the same materials as the supply container.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ventilation and engineering measures: Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits. Ventilation should effectively remove and prevent buildup of any vapor or mist generated from the handling of this product. In cases where the ventilation is insufficient or where operational procedures require it (e.g. spraying or heating isocyanates, large spills, etc.), suitable respiratory protection equipment must be used. See “Respiratory protection” below.

Respiratory protection : If work process generates excessive quantities of vapor, or exposures in excess of any PEL, wear a NIOSH approved organic vapor cartridge respirator.

Skin protection : Wear chemical resistant protective clothing and impervious gloves. Materials such as nitrile rubber or Viton (fluorocarbon rubber) are recommended.

Eye / face protection : Chemical goggles must be worn when using this product. A face shield is recommended if splashing is possible.

Other protective equipment : Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact. An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations : Avoid contact with eyes, skin and clothing. Do not breathe vapors/dust. Do not eat, drink or smoke when using this product. Clean all equipment and clothing at end of each work shift. Contaminated work clothing should not be allowed out of the workplace.

Permissible exposure levels :

Component	CAS #	ACGIH TLV		OSHA PEL	
		TLV	STEL	PEL	STEL
Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer	53862-89-8	N/Av	N/Av	N/Av	N/Av
Methylene diphenyl diisocyanate (4,4'-MDI)	101-68-8	0.005 ppm	N/Av	0.02 ppm	N/Av
Diphenylmethane-2,4-diisocyanate (2,4-MDI)	5873-54-1	N/Av	N/Av	N/Av	0.02 ppm

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Liquid
Appearance : Brown liquid
Odor : Earthy, musty
Odor threshold : N/Av
pH : N/Av
Specific gravity : 1.09
Boiling point : N/Av
Coefficient of water/oil distribution : N/Av
Melting/Freezing point : N/Av
Solubility in water : Insoluble
Vapor pressure (mm Hg @ 20°C / 68°F) : N/Av
Evaporation rate (*n*-Butyl acetate = 1) : N/Av
Viscosity : 800 – 1200 mPa.s
Vapor density (Air = 1) : N/Av
Volatiles (% by weight) : N/Av
Volatile organic compounds (VOCs) : 0 g/L A+B
Flammability classification (OSHA 29 CFR 1910.1200) : Not classified as flammable
Flash point : > 100°C (> 212°F)
Lower flammable limit (% by vol) : N/Av
Flash point method : Setaflash closed cup
Upper flammable limit (% by vol) : N/Av
Auto-ignition temperature : N/Av
Oxidizing properties : None
Flame projection length : Not available
Flashback observed : Not available
Explosion data: Sensitivity to mechanical impact / static discharge : Not expected to be sensitive to mechanical impact or static.

SECTION 10 – REACTIVITY AND STABILITY INFORMATION

Stability and reactivity : Stable under the recommended storage and handling conditions prescribed.
Hazardous polymerization : When handled according to the directions in the Technical Data Sheet, this product chemically reacts with Ardiseal Rapid Plus Part B to form a polymer, generating low levels of heat. This product is capable of reacting with alcohols, amines, and water. Under certain conditions, this reaction could generate sufficient heat to burn or scald, and also release toxic vapors. Only use this product according to the directions on the Technical Data Sheet.
Conditions to avoid : Avoid exposure to excessive heat.
Materials to avoid and incompatibility : Strong acids, peroxides, and other oxidizing agents.
Hazardous decomposition products : Refer to hazardous combustion products in Section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION

Routes of Exposure : *Inhalation:* YES *Skin Absorption:* YES *Skin and Eyes:* Yes *Ingestion:* YES
Symptoms of exposure : See Section 4.
Calculated Acute Toxicity Estimates for the Product
Inhalation : N/Av
Oral : N/Av
Dermal : N/Av
Toxicological data : See below for individual ingredient acute toxicity data.

Ingredients	CAS No	LC50 (4 hr) Inhalation, rat mg/L	LD50 Oral, rat mg/kg	LD50 Dermal, rabbit, mg/kg
Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer	53862-89-8	N/Av	N/Av	N/Av
Methylene diphenyl diisocyanate (4,4'-MDI)	101-68-8	0.178	9200	10000
Diphenylmethane-2,4-diisocyanate (2,4'-MDI)	5873-54-1	N/Av	N/Av	N/Av

Repeated Dose Effects : Chronic overexposure to diisocyanates has been reported to cause lung damage (including fibrosis, decrease in lung function) that may be permanent.

Carcinogenic status : No components are listed as carcinogens by ACGIH, IARC, OSHA, NIOSH or NTP. Study results with 4,4'-MDI: rat, Male/Female, inhalation, 2 Years, 6 hrs/day 5 days/week, Exposure to a level of 6 mg/m^3 polymeric MDI was related to the occurrence of lung tumors. This level is significantly over the TLV for MDI.

Reproductive effects : None known.

Teratogenicity : Study results with 4,4'-MDI: rat, female, inhalation, gestation days 6-15, 6 hrs/day, NOAEL (teratogenicity): 12 mg/m3, NOAEL (maternal): 4 mg/m^3
No Teratogenic effects observed at doses tested., Fetotoxicity seen only with maternal toxicity.

Germ Cell Mutagenicity : None known.

Epidemiology : Not available.

Target Organ Effects : Isocyanates are known to cause respiratory irritation. Chronic overexposure to diisocyanates has also been reported to cause lung damage (including fibrosis, decrease in lung function) that may be permanent.

Sensitization to material : Contains isocyanates, which are known to cause both respiratory and skin sensitization reactions.

Synergistic materials : N/Av

Irritancy/Corrosivity : Irritating to skin and respiratory system. Seriously irritating to eyes.

Other important hazards : See hazards listed in Section 2.

SECTION 12 – ECOLOGICAL INFORMATION

Environmental effects : The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicological : No data is available on the product itself. Information on components is listed below.

Methylene diphenyl diisocyanate (4,4'-MDI) (101-68-8)

Ecotoxicity

LC50: > 500 mg/l (Zebra fish (Brachydanio rerio), 24 h)
EC50: > 500 mg/l (Water flea (Daphnia magna), 24 h)

Ecotoxicity : No data available.
Biodegradability : No data available.
Bioaccumulative potential : No data available.
Mobility in soil : No data available.
PBT and vPvB assessment : No data available.
Other adverse effects : No data available.

SECTION 13 – DISPOSAL CONSIDERATION

Handling for disposal : Handle waste according to recommendations in Section 7.

Methods of disposal : Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

Disposal Information : Waste must be handled in accordance with all local regulations. In case of large spills, follow all facility Emergency Response Procedures. Do not allow this material into sewers/water supplies. Do not reuse containers. Dispose of container and any unused contents in accordance with local regulations.

RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14 – TRANSPORTATION INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	**None**	This product is not regulated according to Canadian TDG regulations.	**None**	**None**	**None**
TDG Additional Information	**None**				
49 CFR/DOT	**None**	This product is not regulated according to US DOT regulations.	**None**	**None**	**None**
49 CFR/DOT Additional Information	**None**				

SECTION 15 – REGULATORY INFORMATION

Canadian Information:

This product has been classified according to the hazard criteria of the Hazardous Products Regulations (HPR). This SDS contains all of the information required by the HPR.

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on either the Domestic Substances List (DSL) or the Non- Domestic Substances List (NDSL).

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): None reported.

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes:
Immediate (Acute) Health Hazard
Chronic Health Hazard
Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This material is subject to SARA notification requirements, since it contains Toxic Chemical constituents above *de minimus* concentrations.

101-68-8 Methylene diphenyl diisocyanate

U.S. State Right To Know Laws

California Proposition 65: This product does not contain chemicals known to the State of California to cause cancer and/or reproductive effects.

Other State Right to Know Laws:

Component	CAS	CA	MA	MN	NJ	NY	PA	RI
Polymethylenepolyphenyl polyisocyanate,	53862-89-8	No	No	No	No	No	No	No

Methylene diphenyl diisocyanate (4,4'-MDI)	101-68-8	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Diphenylmethane-2,4-diisocyanate (2,4-MDI)	5873-54-1	No	No	No	No	No	No	No

SECTION 16 – OTHER INFORMATION

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substances List
EPA: Environmental Protection Agency
GHS: Globally Harmonized System
HPR: Hazardous Products Regulations
IARC: International Agency for Research on Cancer
Inh: Inhalation
N/Av: Not Available
N/Ap: Not Applicable
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RCRA: Resource Conservation and Recovery Act
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

HMIS Rating : * - Chronic Hazard 0 - Minimal 1 – Slight 2 – Moderate 3 – Serious 4 – Severe

Health: *2 *Flammability* 1 *Physical Hazard* 0 PPE:

Recommended PPE: Gloves, safety glasses with side shields, protective clothing

NFPA Rating

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

Health: 2 *Flammability* 1 *Reactivity* 1 *Special Hazards* 0

Disclaimer of Liability

The Information presented herein is supplied as a guide to those who handle or use this product and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive. The manner and conditions of use and handling may involve other and additional considerations. Safe work practices must be employed when working with any materials. It is important that the end user makes a determination regarding the adequacy of the safety procedures employed during the use of this product.
No warranty of any kind is given or implied. ARDEX Engineered Cements will not be liable for any damages, losses, injuries or consequential damages which may result from the use or reliance on any information contained herein.

Prepared By:
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Visit our Website: http://www.ardexamericas.com

Revision date: : 24-Aug-2016

End of Document

SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION

Product Identifier	:	**ARDEX ARDISEAL™ RAPID PLUS (Part B)**
Product Code Number	:	12811011
Chemical Description	:	Mixture
Trade Name/Synonyms	:	ARDEX ARDISEAL PLUS (Part B)
Material Use	:	Semi-rigid joint sealant
Uses Advised Against	:	No information available.

Manufacturer's name and address:

ARDEX Engineered Cements
400 Ardex Park Dr.
Aliquippa, PA 15001 USA

Supplier's name and address
Same as manufacturer.

Information Telephone No.	:	(724) 203-5000
Website Address	:	http://www.ardexamericas.com
24 Hr Emergency Telephone #	:	**CHEM-TEL: 1-800-255-3924 OR 1-813-248-0585 (call collect)**

SECTION 2 – HAZARDS IDENTIFICATION

GHS Classification per 29 CFR 1910.1200 (OSHA HCS 2012) and HPR (WHMIS 2015)

Acute Toxicity, Oral, Category 4
Acute Toxicity, Inhalation, Category 4
Skin Corrosion/Irritation, Category 2
Eye Corrosion/Irritation, Category 2B
Carcinogen, Category 2
Skin Sensitization, Category 1
Reproductive Toxicity, Category 2
Specific Target Organ Toxicity, Single Exposure, Category 3 (Respiratory)

GHS Pictograms :

Signal Word : Danger

Hazard Statement :

May damage fertility or the unborn child.
Suspected of causing cancer.
May cause an allergic skin reaction.
Causes eye and skin irritation.
May cause respiratory irritation.
Harmful if swallowed or inhaled.

Precautionary Statements : Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection. Wash hands and exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should be washed separately from other clothing/fabrics. Wash contaminated clothing before reuse. Store locked up. Dispose

of contents / container in accordance with federal, state, and local laws. Do not allow product to enter drains.

Hazards Not Otherwise Specified : None.

% Unknown acute toxicity : 25% of this product consists of ingredients with unknown acute toxicity.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	% (by weight)
1,3-Benzenediamine, 4-methyl-2,6-bis(methylthio)-	102093-68-5	5 - 10
Titanium dioxide	13463-67-7	3 - 7
Carbon Black	1333-86-4	0.1 - 1.0
2-Pyrrolidinone, 1-ethyl	2687-91-4	0.1 - 1.0
Stannane, dimethylbis[(1-oxoneodecyl)oxy]-	68928-76-7	0.1 - 1.0

Exact percentages of the ingredients have been withheld by the manufacturer as trade secrets.

SECTION 4 – FIRST AID MEASURES

General : IF exposed or concerned: Get medical advice/attention.

Inhalation : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Skin contact : IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with soap and water/shower. IF SKIN irritation or rash occurs: get medical advice/attention.

Eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

Ingestion : IF SWALLOWED: Rinse mouth. Give plenty of water. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician.

Notes for Physician : Treat symptomatically.

Signs and symptoms of short-term (acute) exposure

Inhalation : May cause minor, temporary irritation to respiratory tract. Symptoms may include coughing and shortness of breath.

Skin : May cause skin irritation. Symptoms may include redness and itching.

Eyes : Causes irritation to eyes. Symptoms may include redness, itching, blurred vision or pain.

Ingestion : Symptoms such as gastric pain, nausea, vomiting, and diarrhea may occur.

Effects of long-term (chronic) exposure

: Prolonged inhalation may cause adverse lung effects with symptoms including coughing and shortness of breath. Some individuals may experience a sensitization reaction of the skin after an initial exposure. Subsequent exposures may cause a hypersensitive skin reaction (rash, swelling). See Section 11 for information about other chronic effects.

Indication of need for immediate medical attention or special treatment

: Difficulty breathing persists after removing the person to fresh air.
Any exposure to the eye which causes irritation.
Chemical burns to the skin. Blue color of the skin (cyanotic) after exposure.
Ingestion.

SECTION 5 – FIRE FIGHTING MEASURES

Suitable extinguishing media : Water spray, dry chemical, carbon dioxide, foam. Fight larger fires with water spray or alcohol resistant foam.

Unsuitable extinguishing media **:** High pressure water jet may spread the fire.

Hazardous combustion products : Carbon monoxide carbon dioxide, nitrogen oxides, sulfur oxides, and/or low molecular weight hydrocarbons and amines

Fire hazards/conditions of flammability

: Thermal decomposition can occur at high temperatures (> 100°C), generating hazardous vapors. Closed containers can build up pressure and rupture.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. After fires have been extinguished, carefully clean all equipment and surfaces exposed to fumes.

Flammability classification (OSHA 29 CFR 1910.1200, WHMIS 2015)

: Not classified as flammable.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions : See Section 7 for safe handling procedures. Wear chemically resistant personal protective equipment during cleanup. For spills in enclosed areas with poor/no ventilation, clean-up personnel should wear self-contained breathing apparatuses. Restrict access to area until completion of clean-up. All persons dealing with clean-up must be properly trained and wear the appropriate chemically protective equipment. Refer to Section 8 on this Safety Data Sheet, EXPOSURE CONTROLS / PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

Environmental precautions : Do not allow product to enter waterways. Do not allow material to contaminate ground water system.

Spill response / clean-up : Ventilate area of release. Stop spill or leak at source if safely possible. Turn off all possible ignition sources. Contain product with inert absorbent material, preventing it from entering sewer lines or waterways. Gather up spilled material and place in suitable container for later disposal (see Section 13). Notify the appropriate authorities as required.

Prohibited materials : Avoid strong oxidizing agents.

Special spill response procedures : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8002). Outside of the U.S. call the emergency number listed in Section 1.

US CERCLA Reportable quantity (RQ): None reported.

SECTION 7 – HANDLING AND STORAGE

Safe handling procedures : Wear appropriate personal protective equipment during handling. (See Section 8.) Observe the rules of proper hygiene. Use only with sufficient ventilation. Wash hands carefully after handling. Avoid getting material into eyes, on skin or on clothing. Do NOT breathe vapor. Do NOT swallow. Observe good hygiene standards. Do not eat, drink or smoke in the work area. Wash thoroughly after handling. Wear protective clothing to prevent skin contact. Promptly remove any clothing that becomes contaminated. Clean contaminated clothing before reuse. Keep container tightly closed.

Storage requirements : Store in a cool, dry, well-ventilated area. Store away from heat and open flame. Avoid storing in direct sunlight. Store in original container. Keep tightly closed when not in use. Do not reuse empty container without commercial cleaning or reconditioning.

Incompatible materials : See Section 10.

Special packaging materials : Always keep in containers made of the same materials as the supply container.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible exposure levels

Ingredients	CAS #	ACGIH TLV		OSHA PEL	
		TLV	STEL	PEL	STEL
1,3-Benzenediamine, 4-methyl-2,6-	102093-68-5	N/Av	N/Av	N/Av	N/Av

bis(methylthio)-					
Titanium dioxide	13463-67-7	10 mg/m^3	N/Av	15 mg/m^3 (total dust)	N/Av
Carbon Black	1333-86-4	3.5 mg/m^3	N/Av	3.5 mg/m^3	N/Av
2-Pyrrolidinone, 1-ethyl	2687-91-4	N/Av	N/Av	N/Av	N/Av
Stannane, dimethylbis[(1-oxoneodecyl)oxy]-	68928-76-7	0.1 mg/m^3	0.2 mg/m^3	0.1 mg/m^3	0.2 mg/m^3

Ventilation and engineering measures: Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits. Ventilation should effectively remove and prevent buildup of any vapor or mist generated from the handling of this product.

Personal Protection Equipment (PPE)

Respiratory protection : If work process generates excessive quantities of vapor or dust, or exposures in excess of any PEL, wear an appropriate organic vapor respirator.

Hand protection : Wear impervious gloves. Materials such as nitrile rubber or Viton (fluorocarbon rubber) are recommended. Refer to glove manufacturer for breakthrough time for the chemicals in this product. (See Section 3.)

Body protection : Wear chemical resistant protective clothing. Where extensive exposure to product is possible, use resistant coveralls, apron, and boots to prevent contact.

Eye / face protection : Chemical goggles must be worn when using this product. A face shield is recommended if splashing is possible.

Other protective equipment : An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations : Avoid contact with eyes, skin and clothing. Do not breathe vapors/dust. Do not eat, drink or smoke when using this product. Clean all equipment and clothing at end of each work shift.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Liquid	**Appearance**	: Gray liquid
Odor	: Amine (Slight)	**Odor threshold**	: N/Av
pH	: N/Av	**Specific gravity**	: 1.04
Boiling point	: N/Av	**Coefficient of water/oil distribution**	: N/Av
Melting/Freezing point	: N/Av	**Solubility in water**	: Insoluble
Vapor pressure (mm Hg @ 20°C / 68°F)	: N/Av		
Evaporation rate (*n*-Butyl acetate = 1)	: N/Av	**Viscosity**	: 3000 – 7000 mPa.s
Vapor density (Air = 1)	: N/Av	**Volatiles (% by weight)**	: N/Av
Volatile organic compounds (VOCs)	: 0 g/L A+B		

Flammability classification (OSHA 29 CFR 1910.1200)

: Not classified as flammable

Flash point	: > 100°C (> 212°F)	**Lower flammable limit (% by vol)**	: N/Av
Flash point method	: Setaflash closed cup	**Upper flammable limit (% by vol)**	: N/Av
Auto-ignition temperature	: N/Av	**Oxidizing properties**	: None
Flame projection length	: Not available	**Flashback observed**	: Not available

Explosion data: Sensitivity to mechanical impact / static discharge

: Not expected to be sensitive to mechanical impact or static.

SECTION 10 – REACTIVITY AND STABILITY INFORMATION

Reactivity : Product reacts with isocyanates, forming a polymer. This reaction evolves heat.

Stability : Stable under the recommended storage and handling conditions prescribed.

Hazardous polymerization : Hazardous polymerization does not occur.

Conditions to avoid : Avoid prolonged exposure to heat. Storage above 35°C (95°F) will shorten shelf life.

Materials to avoid and incompatibility

: Strong acids, peroxides, and other oxidizing agents.

Hazardous decomposition products

: Refer to hazardous combustion products in Section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION

Routes of Exposure : *Inhalation:* YES *Skin Absorption:* YES *Skin and Eyes:* Yes *Ingestion:* YES

Symptoms of exposure : See Section 4.

Calculated Acute Toxicity Estimates for the Product

Inhalation : N/Av

Oral : N/Av

Dermal : N/Av

Toxicological data : See below for individual ingredient acute toxicity data.

Ingredients	CAS No	LC50 (4 hr) Inhalation, rat mg/L	LD50 Oral, rat mg/kg	LD50 Dermal, rabbit, mg/kg
1,3-Benzenediamine, 4-methyl-2,6-bis(methylthio)-	102093-68-5	N/Av	1515	> 2000
Titanium dioxide	13463-67-7	> 6.82	> 24,000	> 10,000
Carbon Black	1333-86-4	N/Av	> 8000	N/Av
2-Pyrrolidinone, 1-ethyl	2687-91-4	> 5.1	3200	> 2000
Stannane, dimethylbis[(1-oxoneodecyl)oxy]-	68928-76-7	N/Av	1470	N/Av

Repeated Dose Effects : Not available.

Carcinogenic status : Titanium dioxide and Carbon Black have both been classified by IARC as Group 2B: Possibly carcinogenic to humans. The exposure route for both materials is inhalation of airborne particles of respirable size. In this product, the particles are dispersed in a liquid matrix, and will not become airborne. Do not sand off excess material, following initial application. When removing adhesive from existing flooring (i.e. during a renovation), do not mechanically remove under dry conditions (e.g. blasting, chipping, mechanically pulverizing).

Reproductive effects : Contains 1-Ethyl-2-pyrrolidinone, a suspected human reproductive toxicant. Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Teratogenicity : None known.

Mutagenicity : None known.

Epidemiology : Not available.

Target Organ Effects : May cause respiratory irritation.

Sensitization to material : Contains 4-Methyl-2,6-bis(methylthio)-1,3-benzenediamine, which is known to cause skin sensitization reactions.

Synergistic materials : N/Av

Irritancy/Corrosivity : Causes irritation to eyes and skin.

Other important hazards : See hazards listed in Section 2.

SECTION 12 – ECOLOGICAL INFORMATION

Environmental effects : The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicity : No data available.

Biodegradability : No data available.

Bioaccumulative potential : No data available.

Mobility in soil : No data available.

PBT and vPvB assessment : No data available.

Other adverse effects : No data available.

SECTION 13 – DISPOSAL CONSIDERATION

Handling for disposal : Handle waste according to recommendations in Section 7.

Methods of disposal : Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

Disposal Information **:** Waste must be handled in accordance with all local regulations. In case of large spills, follow all facility Emergency Response Procedures. Do not allow this material into sewers/water supplies. Do not reuse containers. Dispose of container and any unused contents in accordance with local regulations.

RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14 – TRANSPORTATION INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	**None**	This product is not regulated according to Canadian TDG regulations.	**None**	**None**	**None**
TDG Additional Information	**None**				
49 CFR/DOT	**None**	This product is not regulated according to US DOT regulations.	**None**	**None**	**None**
49 CFR/DOT Additional Information	**None**				

SECTION 15 – REGULATORY INFORMATION

Canadian Information:

This product has been classified according to the hazard criteria of the Hazardous Products Regulations (HPR). This SDS contains all of the information required by the HPR.

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on either the Domestic Substances List (DSL) or the Non- Domestic Substances List (NDSL).

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): None reported.

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes:
Immediate (Acute) Health Hazard
Chronic Health Hazard
Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This material is not subject to SARA notification requirements, since it does not contain any Toxic Chemical constituents above de minimus concentrations.

U.S. State Right To Know Laws

California Proposition 65: Warning! This product contains chemicals known to the State of California to cause cancer and/or reproductive effects.

Other State Right to Know Laws:

Component	CAS	CA	MA	MN	NJ	NY	PA	RI

1,3-Benzenediamine, 4-methyl-2,6-	102093-68-5	No	No	No	No	No	No	No
Titanium dioxide	13463-67-7	No	Yes	Yes	Yes	No	Yes	Yes
Carbon Black	1333-86-4	Yes	Yes	Yes	Yes	No	Yes	Yes
2-Pyrrolidinone, 1-ethyl	2687-91-4	No	No	No	No	No	No	No
Stannane, dimethylbis[(1-oxoneodecyl)oxy]-	68928-76-7	No	No	No	No	No	No	No

SECTION 16 – OTHER INFORMATION

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substances List
EPA: Environmental Protection Agency
GHS: Globally Harmonized System
HPR: Hazardous Products Regulations
IARC: International Agency for Research on Cancer
Inh: Inhalation
N/Av: Not Available
N/Ap: Not Applicable
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RCRA: Resource Conservation and Recovery Act
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

HMIS Rating : * - Chronic Hazard 0 - Minimal 1 – Slight 2 – Moderate 3 – Serious 4 – Severe
Health: *2 *Flammability* 1 *Physical Hazard* 0 PPE:
Recommended PPE: Gloves, safety glasses with side shields, protective clothing

Disclaimer of Liability

The Information presented herein is supplied as a guide to those who handle or use this product and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive. The manner and conditions of use and handling may involve other and additional considerations. Safe work practices must be employed when working with any materials. It is important that the end user makes a determination regarding the adequacy of the safety procedures employed during the use of this product.
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