SAFETY DATA SHEET

FOR INDUSTRIAL USE ONLY

Epoxy Resin part A

Section 1. Product and company identification

Product Identifier

Product Name: **POWER-PATCH EPOXY SEALER PART A**
Product Number: 680
Recommended Use: Floor resurface or maintenance
Uses Advised Against: For Industrial and Institutional Use Only
Manufacturer/Supplier: INTERSTATE PRODUCTS INC
6561 Palmer Park Circle Suite A
SARASOTA FL, 34238
Company Phone # (941) 377-8610
1-800-535-5053 (North America)
Emergency Phone (24 Hr) Infotrac 1-352-323-3500 (International)

Section 2. Hazards identification

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Respiratory tract irritation] - Category 3

GHS label elements

Hazard pictograms :

Signal word : Warning
Hazard statements : H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

Precautionary statements

General : Not applicable.

Prevention : Wear protective gloves.
Wear eye or face protection.
Use only outdoors or in a well-ventilated area.
Avoid breathing vapor.
Wash hands thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.

Response : **IF INHALED:**
Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or physician if you feel unwell.
IF ON SKIN:
Wash with plenty of soap and water.
Take off contaminated clothing.
Wash contaminated clothing before reuse.
If skin irritation or rash occurs:
Get medical attention.
IF IN EYES:
Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists:
Get medical attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	% by weight	CAS number
4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer	70 - 90	25068-38-6
Oxirane, Mono[(C12-14-alkyloxy)methyl] Derivs.	20 - 25	68609-97-2

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.
Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	:	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
Inhalation	:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin contact	:	Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	:	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	:	No specific treatment.
Protection of first aid personnel	:	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	:	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	:	None known.
Specific hazards arising from the chemical	:	In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13 of SDS). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see section 8 of

SDS). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10 of SDS) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used

when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body protection	:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	:	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state	:	Liquid
Color	:	Yellow
Odor	:	Not available
Odor threshold	:	Not available
pH	:	Not available
Melting point/ Freezing point	:	Not available
Boiling point	:	Not available
Flash point	:	Setaflash Closed Cup: 93.33 °C (199.99 °F) (ASTM D 3828)
Burning time	:	Not available
Burning rate	:	Not available
Evaporation rate	:	Not available
Flammability (solid, gas)	:	Not available
Lower and upper explosive (flammable) limits	:	**Lower:** Not available **Upper:** Not available
Vapor pressure	:	1.33 mbar
Vapor density	:	1 [Air = 1]
Relative density	:	1.1

Solubility	:	Not available
Solubility in water	:	Slightly
Partition coefficient: n-octanol/water	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
SADT	:	Not available
Viscosity	:	**Dynamic:** Not available **Kinematic:** Not available

Other information

No additional information.

Section 10. Stability and reactivity

Reactivity	:	Stable under normal conditions.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	Avoid all possible sources of ignition (spark or flame). Extremes of temperature and direct sunlight. Surfaces that are sufficiently hot may ignite even liquid product in the absence of sparks or flame.
Incompatible materials	:	Reactive or incompatible with the following materials: strong oxidizing agents, strong acids, aliphatic amines,
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Other hazards		Heating this substance above 300 deg. F in the presence of air may cause slow oxidative decomposition; above 500 deg. F polymerization may occur. Some combinations of resins and curing agents can produce exothermic reactions which in large masses can cause runaway polymerization and charring of the reactants

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer				
	LD50 Oral	Rat	11,400 mg/kg	-
	LD50 Dermal	Rat	2,000 mg/kg	-
Oxirane, Mono[(C12-14-alkyloxy)methyl] Derivs.				

	LD50 Oral	Rat	17,100 mg/kg	-

Conclusion/Summary : Not available

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer	Skin - Erythema/Eschar 404 Acute Dermal Irritation/Corrosion	Rabbit	1.5 - 2		-
	Skin - Edema 404 Acute Dermal Irritation/Corrosion	Rabbit	1.0 - 1.5		-
	eyes - - 405 Acute Eye Irritation/Corrosion	Rabbit	0		-
	eyes - Redness of the conjunctivae	Rabbit	0.7		-
	Skin - Moderate irritant	Rabbit		24 hrs	-
	Skin - Severe irritant	Rabbit		24 hrs	-
	eyes - Mild irritant	Rabbit			-
Oxirane, Mono[(C12-14-alkyloxy)methyl] Derivs.	Skin - Primary dermal irritation index (PDII) OTS 798.4470 Acute Dermal Irritation	Rabbit	4.1	24 hrs	72 hrs
	Skin - Primary dermal irritation index (PDII) 404 Acute Dermal Irritation/Co	Rabbit	5.75	24 hrs	72 hrs

	rrosion				
	eyes - Cornea opacity 405 Acute Eye Irritation/Corrosion	Rabbit	2		1 - 24 hrs
	Skin - Moderate irritant	Rabbit		24 hrs	-

Conclusion/Summary

Skin : Not available

eyes : Not available

Respiratory : Not available

Sensitization

Conclusion/Summary

Skin : Not available

Respiratory : Not available

Mutagenicity

Conclusion/Summary : Not available

Carcinogenicity

Conclusion/Summary : Not available

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer	-	-	-	-	-	-
Remarks:	No adverse reproductive effects were observed in an O.E.C.D. Test Guideline no. 416 GLP two-generation rat oral gavage study conducted up to a high dose level of 750 mg/kg/day that resulted in adult body weight decrements.					

Conclusion/Summary : Not available

Teratogenicity

Conclusion/Summary : Not available

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer	Category 3		Respiratory tract irritation
Oxirane, Mono[(C12-14-alkyloxy)methyl] Derivs.	Category 3		Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available

Aspiration hazard

Not available

Information on the likely routes of exposure : Not available

Potential acute health effects

Eye contact : Causes serious eye irritation.
Inhalation : May cause respiratory irritation.
Skin contact : Causes skin irritation. May cause an allergic skin reaction.
Ingestion : Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available
Potential delayed effects : Not available

Long term exposure

Potential immediate effects : Not available
Potential delayed effects : Not available

Potential chronic health effects

Conclusion/Summary : Not available

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)			
	Acute LC50 1.3 mg/l - 203 Fish, Acute Toxicity Test	Fish - Fish	96 h
	Acute EC50 2.1 mg/l - 202 Daphnia sp. Acute Immobilization Test and Reproduction Test	Aquatic invertebrates. Water flea	48 h
	Acute NOEC 0.3 mg/l - 211 Daphnia Magna Reproduction Test	Aquatic invertebrates. Water flea	21 d
	Acute LC50 > 11 mg/l -	Aquatic plants - Algae	72 h
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.			
	Acute LC50 > 1.8 g/l - 203 Fish, Acute Toxicity Test	Fish - Rainbow trout, donaldson trout	96 h
	Acute LC50 > 5.0 g/l - 203 Fish, Acute Toxicity Test	Fish - Bluegill	96 h
	Acute EC50 7.2 mg/l - 202 Daphnia sp. Acute Immobilization Test and Reproduction Test	Aquatic invertebrates. Water flea	48 h
	Acute EC50 844 mg/l - 201 Alga, Growth Inhibition Test	Aquatic plants - Algae	72 h

Conclusion/Summary : Not available

Persistence/degradability

Conclusion/Summary : Not available

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer	2.64 - 3.78	3 - 31 31.00	low
Oxirane, Mono[(C12-14-alkyloxy)methyl] Derivs.	3.77	160 - 263 160.00	low

Mobility in soil

Soil/water partition coefficient (KOC) : Not available

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products

should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

International transport regulations

Regulatory information	UN/NA number	Proper shipping name	Classes/*PG	Reportable Quantity (RQ)
CFR		Non-regulated		
TDG		Non-regulated		
IMO/IMDG		Non-regulated		
IATA (Cargo)		Non-regulated		

*PG : Packing group

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.'

Section 15. Regulatory information

United States

U.S. Federal regulations :

United States - TSCA 12(b) - Chemical export notification: None required.
United States - TSCA 5(a)2 - Final significant new use rules: Not listed
United States - TSCA 5(a)2 - Proposed significant new use rules: Not listed
United States - TSCA 5(e) - Substances consent order: Not listed
SARA 302 Extremely Hazardous Substances: None required.
SARA 302/304/311/312 hazardous chemicals: None required.

SARA 302/304
Composition/information on ingredients

Name	EHS
Oxirane, 2-(chloromethyl)-	Yes.

California Prop. 65: : WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer., WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Oxirane, 2-(phenoxymethyl)-	Yes.	No.	5 µg/day	No.
Oxirane, 2-(chloromethyl)-	Yes.	Yes.	9 µg/day	No.

United States inventory (TSCA 8b) : All components are listed or exempted.

Canada

WHMIS (Canada) : Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists

Canadian NPRI : None required.

CEPA Toxic substances : None required.

International regulations

International lists : **Australia inventory (AICS):** All components are listed or exempted.
Canada inventory: All components are listed or exempted.
Japan inventory: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Korea inventory: All components are listed or exempted.
New Zealand Inventory (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
United States inventory (TSCA 8b): All components are listed or exempted.
Taiwan inventory (CSNN): All components are listed or exempted.

Section 16. Other information

Hazardous Material Information System III (U.S.A.) :

Health	*	2
Flammability		1
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR

1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA).

Full text of abbreviated H statements	:	Not applicable.

History

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Prepared by	:	Staff

FOR INDUSTRIAL USE ONLY

Epoxy Curing Agent

Section 1. Product and company identification

Product Identifier

Product Name: **POWER-PATCH EPOXY SEALER B**
Product Number: 680
Recommended Use: Floor or surface treatment
Uses Advised Against: For Industrial and Institutional Use Only
Manufacturer/Supplier: INTERSTATE PRODUCTS INC
6551 Palmer Park Circle Suite A
SARASOTA FL, 34238
Company Phone # (941) 377-8610
Emergency Phone (24 Hr) Infotrac 1-800-535-5053 (North America)
1-352-323-3500 (International)

Section 2. Hazards identification

Classification of the substance or mixture : ACUTE TOXICITY: dermal - Category 4
SKIN CORROSION/IRRITATION - Category 1B
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
TOXIC TO REPRODUCTION [Fertility] - Category 2
TOXIC TO REPRODUCTION [Unborn child] - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [eyes, mucous membranes] - Category 1
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) [skin, respiratory tract, kidneys, liver] - Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H361f Suspected of damaging fertility.
H361d Suspected of damaging the unborn child.
H370 Causes damage to organs: (eyes, mucous membranes)
H372 Causes damage to organs through prolonged or repeated exposure: (skin, respiratory tract, kidneys, liver)

Precautionary statements

General : Not applicable.

Prevention : Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use personal protective equipment as required.
Wear protective gloves.
Wear eye or face protection.
Wear protective clothing.
In case of inadequate ventilation wear respiratory protection.
Do not breathe vapor.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.

Response : Get medical attention if you feel unwell.
IF exposed:
Call a POISON CENTER or physician.
IF INHALED:
Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Immediately call a POISON CENTER or physician.
If experiencing respiratory symptoms:
Call a POISON CENTER or physician.
IF SWALLOWED:
Immediately call a POISON CENTER or physician.
Rinse mouth.
Do NOT induce vomiting.
IF ON SKIN (or hair):
Take off immediately all contaminated clothing.
Rinse skin with water or shower.
Wash contaminated clothing before reuse.
Immediately call a POISON CENTER or physician.
IF ON SKIN:
Wash with plenty of soap and water.
Call a POISON CENTER or physician if you feel unwell.
If skin irritation or rash occurs:
Get medical attention.
IF IN EYES:
Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	% by weight	CAS number
Fatty acids, tall-oil, reaction products with tetraethylenepentamine	90 - 100	68953-36-6
Tetraethylenepentamine	10 - 12.5	112-57-2
Triethylenetetramine	0.2 - 1	112-24-3

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.
Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.

Skin contact : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing

and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first aid personnel : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
nitrogen oxides
carbon oxides
other organic compounds

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13 of SDS). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see section 8 of SDS). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10 of SDS) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Tetraethylenepentamine	**AIHA WEEL (2004-01-01)** Time Weighted Average (TWA) 5 mg/m3
Triethylenetetramine	**AIHA WEEL (1999-01-01)** Time Weighted Average (TWA) 1 ppm **NIOSH REL (2005-09-30)**

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash

contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid
Color : Reddish-brown

Odor : amine.
Odor threshold : Not available

pH : Not available

Melting point/ Freezing point : Not available
Boiling point : 218.33 °C (424.99 °F)

Flash point : 93.4 °C (200.12 °F)

Burning time : Not available
Burning rate : Not available
Evaporation rate : 1 ((n-Butyl acetate=1))

Flammability (solid, gas)	:	Not available
Lower and upper explosive (flammable) limits	:	**Lower:** Not available **Upper:** Not available
Vapor pressure	:	Not available
Vapor density	:	1 [Air = 1]
Relative density	:	0.96
Solubility	:	Not available
Solubility in water	:	Insoluble
Partition coefficient: n-octanol/water	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
SADT	:	Not available
Viscosity	:	**Dynamic:** Not available **Kinematic:** Not available

Other information

No additional information.

Section 10. Stability and reactivity

Reactivity	:	Stable under normal conditions.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	Strong oxidizer, Keep away from heat, sparks, flame and other ignition sources.
Incompatible materials	:	strong oxidizing agents,
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Other hazards		Heating this substance above 300 deg. F in the presence of air may cause slow oxidative decomposition; above 500 deg. F polymerization may occur. Some combinations of resins and curing agents can produce exothermic reactions which in large masses can cause runaway polymerization and charring of the reactants Fumes and vapors from the thermal and chemical decompositions vary widely in composition and toxicity.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Triethylenetetramine	LD50 Oral	Rat	2,500 mg/kg	-

Conclusion/Summary : Not available

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Triethylenetetramine	eyes - Moderate irritant	Rabbit		24 hrs	-
	Skin - Severe irritant	Rabbit		24 hrs	-
	eyes - Severe irritant	Rabbit			-

Conclusion/Summary
Skin : Not available
eyes : Not available
Respiratory : Not available

Sensitization

Conclusion/Summary
Skin : Not available
Respiratory : Not available

Mutagenicity

Conclusion/Summary : Not available

Carcinogenicity

Conclusion/Summary : Not available

Reproductive toxicity

Conclusion/Summary : Not available

Teratogenicity

Conclusion/Summary : Not available

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Fatty acids, tall-oil, reaction products with tetraethylenepentamine	Category 3		Respiratory tract irritation
Tetraethylenepentamine	Category 1		eyes mucous membranes

Triethylenetetramine	Category 1		eyes

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Tetraethylenepentamine	Category 1 Category 2		skin respiratory tract liver kidneys
Triethylenetetramine	Category 1 Category 2		respiratory tract skin liver kidneys

Aspiration hazard

Not available

Information on the likely routes of exposure : Not available

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Causes severe burns. Harmful in contact with skin. May cause an allergic skin reaction.

Ingestion : May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:

stomach pains reduced
fetal weight increase in
fetal deaths skeletal
malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available
Potential delayed effects : Not available

Long term exposure

Potential immediate effects : Not available
Potential delayed effects : Not available

Potential chronic health effects

Conclusion/Summary : Not available

General : Causes damage to organs through prolonged or repeated exposure: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : Suspected of damaging the unborn child.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Not available

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
3,6-diazaoctanethylenediamin			
	Acute LC50 33,900 µg/l Fresh water	Aquatic invertebrates. Water flea	48 h
	Acute EC50 3,700 µg/l Fresh water	Aquatic plants - Green algae	96 h

Conclusion/Summary : Not available

Persistence/degradability

Conclusion/Summary : Not available

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Triethylenetetramine	-1.66 - -1.4	-	low

Mobility in soil

Soil/water partition coefficient (KOC) : Not available

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

International transport regulations

Regulatory information	UN/NA number	Proper shipping name	Classes/*PG	Reportable Quantity (RQ)
CFR		Non-regulated		
TDG		Non-regulated		
IMO/IMDG		Non-regulated		
IATA (Cargo)		Non-regulated		

*PG : Packing group

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident

or spillage.'

Section 15. Regulatory information

United States

HCS Classification : Irritating material
Sensitizing material
Target organ effects

U.S. Federal regulations : **United States - TSCA 12(b) - Chemical export notification:** None required.
United States - TSCA 5(a)2 - Final significant new use rules: Not listed
United States - TSCA 5(a)2 - Proposed significant new use rules: Not listed
United States - TSCA 5(e) - Substances consent order: Not listed

California Prop. 65: : None required.

United States inventory (TSCA 8b) : All components are listed or exempted.

Canada

WHMIS (Canada) : Class D-1B: Material causing immediate and serious toxic effects (Toxic).
Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists

Canadian NPRI : None required.

CEPA Toxic substances : None required.

International regulations

International lists : **Australia inventory (AICS):** All components are listed or exempted.
Canada inventory: All components are listed or exempted.
Japan inventory: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Korea inventory: All components are listed or exempted.
New Zealand Inventory (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
United States inventory (TSCA 8b): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

Section 16. Other information

Hazardous Material Information System III (U.S.A.) :

Health	*	2
Flammability		1
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA).

Full text of abbreviated H statements : Not applicable.

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