Atlas Minerals and Chemicals Inc.
1227 Valley Road
Mertztown, PA 19539
610-682-7171

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **EPOXYBOND® POOL PASTE RESIN**

Product Code(s) : **Z530121, 530337**

Recommended use of the chemical and restrictions on use

: Epoxy resin
Use pattern: Consumer use
Recommended restrictions None known.

Chemical family : Mixture

Name, address, and telephone number of the supplier:

Atlas Minerals and Chemicals Inc.

1227 Valley Road
Mertztown, PA, USA
19539

Supplier's Telephone # : 610-682-7171

Name, address, and telephone number of the manufacturer:

Refer to supplier

24 Hr. Emergency Tel # : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Solid, non-sag paste. Characteristic odor.

Most important hazards: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).
Hazard classification

Skin Irritation - Category 2 :
Skin sensitization - Category 1

Label elements

Hazard pictogram(s)

Signal Word

WARNING!

Hazard statement(s)

Causes skin irritation.
May cause allergic skin reaction.

SAFETY DATA SHEET

Precautionary statement(s)

Wash thoroughly after handling.
Avoid breathing mist or vapors.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves.

IF ON SKIN: Wash with plenty of soap and water.
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.

Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification:
Burning produces obnoxious and toxic fumes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause respiratory tract irritation. .

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	Common name and synonyms	CAS #	Concentration
Bisphenol A / epichlorohydrin resin	Epoxy resin	25068-38-6	20.0 - 30.0
Neopentyl glycol diglycidyl ether	1,3-Bis(2,3-epoxypropoxy) -2,2-dimethylpropane	17557-23-2	5.0 - 10.0
Titanium oxide	Anatase Titanic acid anhydride	13463-67-7	5.0 - 10.0
Crystalline silica	Quartz silica	14808-60-7	1.0 - 5.0
Amorphous Precipitated Silica	Synthetic Amorphous, Pyrogenic Silica	112945-52-5	1.0 - 5.0

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

Ingestion : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

Inhalation : IF INHALED: Remove person to fresh air and keep comfortable for breathing. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact : IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention. Take off contaminated clothing and wash before re-use.

Eye contact : For eye contact, flush with running water for at least 15 minutes. If eye irritation persists, get medical advice/attention.

Most important symptoms and effects, both acute and delayed

: Causes skin irritation. Contact may cause redness, swelling and a painful sensation. May cause respiratory irritation. May cause coughing and breathing difficulties. May cause eye irritation. Symptoms may include tearing, redness and discomfort. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause allergic skin reaction. Symptoms may include redness, itching and swelling.
.

Indication of any immediate medical attention and special treatment needed

: Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

SAFETY DATA SHEET

Extinguishing media

Suitable extinguishing media

: Carbon dioxide (CO2); Dry chemical; Alcohol-resistant foam; water fog .

Unsuitable extinguishing media

: Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

: Not considered flammable.

Flammability classification (OSHA 29 CFR 1910.106)

: Not flammable.

Hazardous combustion products

: Carbon dioxide and carbon monoxide.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Do not allow material to contaminate ground water system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Sweep up and shovel into suitable containers for disposal. Pick up and transfer to properly labelled containers. Contact the proper local authorities. Refer to Section 13 for disposal of contaminated material.

Special spill response procedures

: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

: Wear protective gloves. Use only in well-ventilated areas. Avoid breathing mist or vapors. Avoid contact with skin, eyes and clothing. Keep container tightly closed. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Persons with recurrent skin eczema or sensitization problems should be excluded from working with this product. Once a person is sensitized, no further exposure to the material that caused the sensitization should be permitted.

Conditions for safe storage : Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking.

Incompatible materials : Oxidizing agents, mineral acids Amines .

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

SAFETY DATA SHEET

Exposure Limits:

Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Bisphenol A / epichlorohydrin resin	N/Av	N/Av	N/Av	N/Av
Neopentyl glycol diglycidyl ether	N/Av	N/Av	N/Av	N/Av
Titanium oxide	10 mg/m³	N/Av	15 mg/m³ (total dust)	N/Av
Crystalline silica	0.025 mg/m³ (respirable)	N/Av	0.1 mg/m³ (respirable) (final rule limit)	N/Av
Amorphous Precipitated Silica	N/Av	N/Av	N/Av	N/Av

Exposure controls

Ventilation and engineering measures

: Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Use explosion-proof equipment. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection : If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

Skin protection : Wear protective gloves/clothing. Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye / face protection : Wear eye/face protection. Wear as appropriate: Tightly fitting safety goggles

Other protective equipment : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

: Avoid breathing dust, mist or vapors. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Do not take contaminated clothing home. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Solid, non-sag paste.

Odor : Characteristic odor.

Odor threshold : No information available.

pH : No information available.

Melting/Freezing point : No information available.

Initial boiling point and boiling range

: No information available. No information available.

Flash point : 224°C (436°F)

Flashpoint (Method) : Cleveland closed cup

Evaporation rate (BuAe = 1) : No information available.

Flammability (solid, gas) : Not applicable.

Lower flammable limit (% by vol.)

: Not applicable.

SAFETY DATA SHEET

Upper flammable limit (% by vol.)
: Not applicable.

Oxidizing properties : None known.

Explosive properties : Not explosive

Vapor pressure : Low

Vapor density : (Air = 1) > 1

Relative density / Specific gravity
: 1.7-1.8

Solubility in water : Insoluble.

Other solubility(ies) : No information available.

Partition coefficient: n-octanol/water or Coefficient of water/oil distribution
: No information available.

Auto-ignition temperature : No information available.

Decomposition temperature : No information available.

Viscosity : Not available.

Volatiles (% by weight) : Nil

Volatile organic Compounds (VOC's)
: No information available.

Absolute pressure of container
: Not applicable.

Flame projection length : Not applicable.

Other physical/chemical comments
: No additional information.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions
: Hazardous polymerization does not occur.

Conditions to avoid : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

Incompatible materials : Oxidizing agents, mineral acids Amines .

Hazardous decomposition products
: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption
: YES

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: May cause respiratory irritation. Symptoms may include coughing and sneezing.

SAFETY DATA SHEET

Sign and symptoms ingestion

: Ingestion may cause severe irritation to the mouth, throat and stomach.

Sign and symptoms skin : This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Skin Irritation - Category 2 Causes skin irritation.

Sign and symptoms eyes : Direct eye contact may cause irritation.

Potential Chronic Health Effects

: Chronic skin contact with low concentrations may cause dermatitis.

Mutagenicity : Not expected to be mutagenic in humans.

Carcinogenicity : This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).
Contains crystalline silica. Crystalline silica is classified as carcinogenic by IARC (Group 1), the ACGIH (Category A2) and the NTP (Group 1 - Known human carcinogen). However, Crystalline silica is listed as causing cancer only when it's particles are airborne and of a respirable size. Airborne respirable particles are not expected for this product, based on the intended use and form of the product as a whole.
Contains Titanium dioxide. Titanium dioxide is classified as possibly carcinogenic by IARC (Group 2B). However, the Titanium dioxide used in this product is in a non-respirable form and under normal conditions of use, Titanium dioxide cannot become airboune. The carcinogenic effects of Titanium dioxide are therefore not applicable to this product.

Reproductive effects & Teratogenicity

: This product is not expected to cause reproductive or developmental effects.

Sensitization to material : This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Skin sensitization - Category 1
May cause an allergic skin reaction.
Not expected to be a respiratory sensitizer.

Specific target organ effects : The substance or mixture is not classified as specific target organ toxicant, single exposure.

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Medical conditions aggravated by overexposure

: Pre-existing skin, eye, respiratory and central nervous system disorders.

Synergistic materials : No information available.

Toxicological data : Contains no ingredients that are considered to have acute toxicity hazards.

Chemical name	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Bisphenol A / epichlorohydrin resin	>791 mg/m³ (dust) (no deaths)	11400 mg/kg	>23500 mg/kg
Neopentyl glycol diglycidyl ether	N/Av	4500 mg/kg	N/Av
Titanium oxide	> 6.82 mg/kg (dust) (No mortality)	> 25 000 mg/kg	> 10 000 mg/kg
Crystalline silica	N/Av	N/Av	N/Av
Amorphous Precipitated Silica	>2.08mg/L (no deaths)	3160 mg/kg	>5000mg/kg

Other important toxicological hazards

: None reported by the manufacturer.

SAFETY DATA SHEET

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : Contains material that may be harmful in the environment.

Do not release, unmonitored, into the environment.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Bisphenol A / epichlorohydrin resin	25068-38-6	3.6 mg/L (Rainbow trout)	N/Av	None.
Titanium oxide	13463-67-7	> 100 mg/L (Japanese ricefish)	N/Av	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Bisphenol A / epichlorohydrin resin	25068-38-6	1.1-2.8mg/L (Water flea)	0.3mg/L (Water flea)	None.
Titanium oxide	13463-67-7	> 100 mg/L (Daphnia magna)	N/Av	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Bisphenol A / epichlorohydrin resin	25068-38-6	9.4mg/L (Green algae)	2.8mg/L (Green algae)	None.
Titanium oxide	13463-67-7	> 100 mg/L/72hr (Green algae)	N/Av	None.

Persistence and degradability

: Not expected to be rapidly biodegradable.

Bioaccumulation potential : No data is available on the product itself.

Components	Partition coefficent n-octanol/ater (log Kow)	Bioconcentration factor (BCF)
Bisphenol A / epichlorohydrin resin (CAS 25068-38-6)	>2.915	
Neopentyl glycol diglycidyl ether (CAS 17557-23-2)	N/Av	N/Av
Amorphous Precipitated Silica (CAS 112945-52-5)	0.53(calculated)	

Mobility in soil : The product itself has not been tested.

Other Adverse Environmental effects

: None known.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.

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SAFETY DATA SHEET

Methods of Disposal : Dispose in accordance with all applicable federal, state, provincial and local regulations.

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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	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	
49CFR/DOT Additional information	None.				
TDG	None.	Not regulated.	not regulated	none	
TDG Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				

Special precautions for user : Appropriate advice on safety must accompany the package.

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Environmental hazards : Contains material that may be harmful in the environment. See ECOLOGICAL INFORMATION, Section 12.

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Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: This information is not available.

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SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

SAFETY DATA SHEET

Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Bisphenol A / epichlorohydrin resin	25068-38-6	Yes	N/Ap	N/Av	No	N/Ap
Neopentyl glycol diglycidyl ether	17557-23-2	Yes	N/Ap	N/Av	No	N/Ap
Titanium oxide	13463-67-7	Yes	N/Ap	N/Av	No	N/Ap
Crystalline silica	14808-60-7	Yes	None.	None.	No	N/Ap
Amorphous Precipitated Silica	112945-52-5	NL	N/Ap	N/Av	No	N/Ap

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Bisphenol A / epichlorohydrin resin	25068-38-6	No	N/Ap	No	No	No	No	No	No
Neopentyl glycol diglycidyl ether	17557-23-2	No	N/Ap	No	No	No	No	No	No
Titanium oxide	13463-67-7	Yes	, unbound particles	No	Yes	Yes	Yes	Yes	Yes
Crystalline silica	14808-60-7	Yes	orne particles of res	No	Yes	Yes	Yes	Yes	Yes
Amorphous Precipitated Silica	112945-52-5	No	N/Ap	No	No	No	No	No	No

Canadian Information:

Canadian Environmental Protection Act (CEPA): . All ingredients are present on the DSL.

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this Safety Data Sheet contains all the information required by the CPR.

International Information:

Components listed below are present on the following International Inventory list:

SAFETY DATA SHEET

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Bisphenol A / epichlorohydrin resin	25068-38-6	N/Av	Present	Present	(7)-1283	KE-24000	Present	HSR003180
Neopentyl glycol diglycidyl ether	17557-23-2	241-536-7	Present	Present	(2)-396	KE-11820	Present	HSR003994
Titanium oxide	13463-67-7	236-675-5	Present	Present	(5)-5225; (1)-558	KE-33900	Present	May be used as a single component chemical under an appropriate group standard
Crystalline silica	14808-60-7	238-878-4	Present	Present	(1)-548	KE-29983	Present	HSR003125
Amorphous Precipitated Silica	112945-52-5	231-545-4 (as Silicon dioxide)	Present	Present	(1)-548	KE-30953	Present	No information available.

SECTION 16. OTHER INFORMATION

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
AICS: Australian Inventory of Chemical Substances
ATE: Acute Toxicity Estimate
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CSA: Canadian Standards Association
DOT: Department of Transportation
ECHA: European Chemicals Agency
ECOTOX: U.S. EPA Ecotoxicology Database
EINECS: European Inventory of Existing Commercial chemical Substances
ENCS: Existing and New Chemical Substances
EPA: Environmental Protection Agency
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IBC: Intermediate Bulk Container
IECSC: Inventory of Existing Chemical Substances
IMDG: International Maritime Dangerous Goods
IOC: Inventory of Chemicals
IUCLID: International Uniform Chemical Information Database
KECI: Korean Existing Chemicals Inventory
KECL: Korean Existing Chemicals List
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
MN: Minnesota
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
PICCS: Philippine Inventory of Chemicals and Chemical Substances
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island

SAFETY DATA SHEET

RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
SDS: Safety Data Sheet / Material Safety Data Sheet
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

References : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2014.
2. International Agency for Research on Cancer Monographs, searched 2015.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2015 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - October 2012 version.
6. California Proposition 65 List - December 26, 2014 version

Preparation Date (mm/dd/yyyy)

: 05/02/2015

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

Prepared for: Atlas Minerals and Chemicals Inc. 1227 Valley Road Mertztown, PA 19539 610-682-7171	Atlas Minerals & Chemicals, Inc.
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com	icc ComplianceCenter

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Atlas Minerals and Chemicals Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Atlas Minerals and Chemicals Inc.
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END OF DOCUMENT

Atlas Minerals and Chemicals Inc.
1227 Valley Road
Mertztown, PA 19539
610-682-7171

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **EPOXYBOND® POOL PASTE HARDENER**

Product Code(s) : **Z530117, 530357**

Recommended use of the chemical and restrictions on use

: Epoxy Paste Hardener
Use pattern: Consumer use
Recommended restrictions None known.

Chemical family : Mixture

Name, address, and telephone number of the supplier:

Atlas Minerals and Chemicals Inc.

1227 Valley Road
Mertztown, PA, USA
19539

Supplier's Telephone # : 610-682-7171

Name, address, and telephone number of the manufacturer:

Refer to supplier

24 Hr. Emergency Tel # : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Solid, non-sag paste. Mild odor.

Most important hazards: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification :

Acute Toxicity, oral - Category 4
Skin corrosion/irritation: Category 1
Eye damage/irritation: Category 1
Skin sensitization - Category 1
Germ Cell Mutangenicity - Category 2

Label elements

Hazard pictogram(s)

Signal Word

DANGER!

Hazard statement(s)

Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause allergic skin reaction.
Suspected of causing genetic defects.

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SAFETY DATA SHEET

Precautionary statement(s)

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Contaminated work clothing must not be allowed out of the workplace.
Do not breathe dust or fume.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/clothing and eye/face protection.

IF exposed or concerned: Get medical attention/advice.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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 doctor/physician.

Store locked up.

Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification:
Burning produces obnoxious and toxic fumes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause respiratory tract irritation. .

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	Common name and synonyms	CAS #	Concentration
4-Nonylphenol, branched	Mono-4-nonylphenol, branched	84852-15-3	10.0 - 30.0
Silica	crystalline silica, quartz	14808-60-7	1.0 - 5.0
Aminoethylpiperazine	N-(2-Aminoethyl)piperazine	140-31-8	5.0 - 10.0

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

Ingestion : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

Inhalation : IF INHALED: Remove person to fresh air and keep comfortable for breathing. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact : IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention. Take off contaminated clothing and wash before re-use.

Eye contact : Immediately flush eyes with running water for at least 20 minutes. If eye irritation persists, get medical advice/attention.

SAFETY DATA SHEET

Most important symptoms and effects, both acute and delayed

: Causes skin irritation. Contact may cause redness, swelling and a painful sensation. May cause respiratory irritation. May cause coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Causes serious eye irritation. Symptoms may include redness, pain, tearing and conjunctivitis. May cause allergic skin reaction. Symptoms may include redness, itching and swelling. Suspected of causing genetic defects. .

Indication of any immediate medical attention and special treatment needed

: Immediate medical attention is required. Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

: Carbon dioxide (CO2); dry chemical; alcohol-resistant foam; water fog .

Unsuitable extinguishing media

: Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

: Not considered flammable.

Flammability classification (OSHA 29 CFR 1910.106)

: Not flammable.

Hazardous combustion products

: Carbon dioxide and carbon monoxide.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Do not allow material to contaminate ground water system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Sweep up and shovel into suitable containers for disposal. Pick up and transfer to properly labelled containers. Contact the proper local authorities. Refer to Section 13 for disposal of contaminated material.

Special spill response procedures

: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

SAFETY DATA SHEET

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear suitable protective equipment during handling. Wear protective gloves/clothing and eye/face protection. Use only in well-ventilated areas. Do not breathe dust or fume. Avoid contact with skin, eyes and clothing. Keep container tightly closed. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Persons with recurrent skin eczema or sensitization problems should be excluded from working with this product. Once a person is sensitized, no further exposure to the material that caused the sensitization should be permitted. Contaminated work clothing must not be allowed out of the workplace.

Conditions for safe storage : Store in cool/well-ventilated place. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking. Keep containers dry and tightly closed to avoid moisture absorption and contamination.

Incompatible materials : Moisture. Strong acids and strong bases Avoid strong oxidizers.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH TLV		OSHA	
	TWA	STEL	PEL	STEL
4-Nonylphenol, branched	N/Av	N/Av	N/Av	N/Av
Silica	0.025 mg/m³ (respirable fraction)	N/Av	0.1 mg/m³ (final rule limit)	N/Av
Aminoethylpiperazine	N/Av	N/Av	N/Av	N/Av

Exposure controls

Ventilation and engineering measures

: Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Use explosion-proof equipment. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection : If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

Skin protection : Wear protective gloves/clothing. Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye / face protection : Wear eye/face protection. Wear as appropriate: Tightly fitting safety goggles

Other protective equipment : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

: Do not breathe dust or fume. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Do not take contaminated clothing home. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Solid, non-sag paste.

Odor : Mild odor.

Odor threshold : No information available.

pH : No information available.

SAFETY DATA SHEET

Melting/Freezing point	:	No information available.
Initial boiling point and boiling range	:	149°C (300°F)
Flash point	:	174°C (346°F)
Flashpoint (Method)	:	Cleveland closed cup
Evaporation rate (BuAe = 1)	:	No information available.
Flammability (solid, gas)	:	Not applicable.
Lower flammable limit (% by vol.)	:	Not applicable.
Upper flammable limit (% by vol.)	:	Not applicable.
Oxidizing properties	:	None known.
Explosive properties	:	Not explosive
Vapour pressure	:	Low
Vapour density	:	(Air = 1) > 1
Relative density / Specific gravity	:	1.73-1.77
Solubility in water	:	Slightly soluble.
Other solubility(ies)	:	No information available.
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution	:	No information available.
Auto-ignition temperature	:	No information available.
Decomposition temperature	:	No information available.
Viscosity	:	No information available.
Volatiles (% by weight)	:	Nil
Volatile organic Compounds (VOC's)	:	None.
Absolute pressure of container	:	Not applicable.
Flame projection length	:	Not applicable.
Other physical/chemical comments	:	No additional information.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not normally reactive.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Hazardous polymerization does not occur.
Conditions to avoid	:	Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
Incompatible materials	:	Moisture. Strong acids and strong bases Avoid strong oxidizers.
Hazardous decomposition products	:	None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation	:	YES
Routes of entry skin & eye	:	YES
Routes of entry Ingestion	:	YES

SAFETY DATA SHEET

Routes of exposure skin absorption

: YES

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: May cause respiratory irritation. Symptoms may include coughing and sneezing.

Sign and symptoms ingestion

: Ingestion may cause severe irritation to the mouth, throat and stomach. Symptoms include nausea, vomiting and diarrhea.

Sign and symptoms skin : This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:
Skin irritation Category 1 Causes severe skin burns and eye damage.

Sign and symptoms eyes : This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification :
Eye damage/irritation Category 1 Causes serious eye damage.

Potential Chronic Health Effects

: May cause damage to the lungs through prolonged or repeated exposure if inhaled.

Mutagenicity : This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Germ Cell Mutangenicity - Category 2 Suspected of causing genetic defects.

Carcinogenicity : This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Contains crystalline silica. Crystalline silica is classified as carcinogenic by IARC (Group 1), the ACGIH (Category A2) and the NTP (Group 1 - Known human carcinogen). However, Crystalline silica is listed as causing cancer only when it's particles are airborne and of a respirable size. Airborne respirable particles are not expected for this product, based on the intended use and form of the product as a whole.

Reproductive effects & Teratogenicity

: This product is not expected to cause reproductive or developmental effects.

Sensitization to material : This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Skin sensitization - Category 1 May cause allergic skin reaction.

Not expected to be a respiratory sensitizer.

Specific target organ effects : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Medical conditions aggravated by overexposure

: Pre-existing skin, eye and respiratory disorders.

Synergistic materials : No information available.

SAFETY DATA SHEET

Toxicological data : Acute Toxicity, oral - Category 4 .Harmful if swallowed.
The calculated ATE values for this mixture are:

ATE oral = 1756.37
ATE dermal = 5453.28

See the following table for individual ingredient acute toxicity data.

Chemical name	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
4-Nonylphenol, branched	N/Av	1246 mg/kg	2040 mg/kg
Silica	N/Av	N/Av	N/Av
Aminoethylpiperazine	>890ppm (no deaths)	1470 mg/kg	865mg/kg

Other important toxicological hazards
: None reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : Very toxic to aquatic life with long lasting effects. Do not release, unmonitored, into the environment.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
4-Nonylphenol, branched	84852-15-3	0.1428mg/L Fathead minnow	N/Av	1
Silica	14808-60-7	N/Av	N/Av	N/Av
Aminoethylpiperazine	140-31-8	2190mg/L (Fathead minnow)	N/Av	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
4-Nonylphenol, branched	84852-15-3	0.14 mg/L (Water flea)	0.024mg/L (Water flea)	1
Silica	14808-60-7	N/Av	N/Av	N/Av
Aminoethylpiperazine	140-31-8	58mg/L (Water flea)	N/Av	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
4-Nonylphenol, branched	84852-15-3	0.0563mg/L (Green algae)	0.0033mg/L (Green algae)	10
Silica	14808-60-7	N/Av	N/Av	N/Av
Aminoethylpiperazine	140-31-8	>1000mg/L (Green algae)	N/Av	None.

SAFETY DATA SHEET

Persistence and degradability

: No data is available on the product itself.

Bioaccumulation potential : No data is available on the product itself.

Components	Partition coefficent n-octanol/ater (log Kow)	Bioconcentration factor (BCF)
4-Nonylphenol, branched (CAS 84852-15-3)		271 species: fish
Aminoethylpiperazine (CAS 140-31-8)	-1.57	N/Av

Mobility in soil : The product itself has not been tested.

Other Adverse Environmental effects

: None known.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.

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Methods of Disposal : Dispose in accordance with all applicable federal, state, provincial and local regulations.

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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	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	
49CFR/DOT Additional information	This product is not regulated unless it is shipped in package sizes of 5L or 5Kg or more. Then it must be shipped as Environmentally Hazardous Liquid, N.O.S. UN 3077				
TDG	None.	Not regulated.	not regulated	none	
TDG Additional information					
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	This product is not regulated unless it is shipped in package sizes of 5L or 5Kg or more. Then it must be shipped as Environmentally Hazardous Liquid, N.O.S. UN 3082				
ICAO/IATA	None.	Not regulated.	not regulated	none	

SAFETY DATA SHEET

ICAO/IATA Additional information	This product is not regulated for ground transport unless it is shipped in package sizes of 5L or 5Kg or more. Then it must be shipped as Environmentally Hazardous Liquid, N.O.S. UN 3082

Special precautions for user : Appropriate advice on safety must accompany the package.

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Environmental hazards : Very toxic to aquatic life with long lasting effects. See ECOLOGICAL INFORMATION, Section 12.

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Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: This information is not available.

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SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
4-Nonylphenol, branched	84852-15-3	Yes	N/Ap	N/Av	No	N/Ap
Silica	14808-60-7	Yes	N/Ap	N/Av	No	N/Ap
Aminoethylpiperazine	140-31-8	Yes	N/Ap	N/Av	No	N/Ap

SARA TITLE III: Sec. 311 and 312, MSDS 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 for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
4-Nonylphenol, branched	84852-15-3	No	N/Ap	No	No	No	No	No	No
Silica	14808-60-7	Yes	airborne particles of	No	Yes	Yes	Yes	Yes	Yes
Aminoethylpiperazine	140-31-8	No	N/Ap	No	Yes	No	Yes	Yes	No

Canadian Information:

Canadian Environmental Protection Act (CEPA): . All ingredients are present on the DSL.

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this Safety Data Sheet contains all the information required by the CPR.

SAFETY DATA SHEET

International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
4-Nonylphenol, branched	84852-15-3	284-325-5	Present	Present	(3)-503	KE-03584; 2001-1-515	Present	HSR003846
Silica	14808-60-7	238-878-4	Present	Present	(1)-548	KE-29983	Present	HSR003125
Aminoethylpiperazine	140-31-8	205-411-0	Present	Present	(5)-961	KE-28762	Present	HSR004013

SECTION 16. OTHER INFORMATION

Legend :

ACGIH: American Conference of Governmental Industrial Hygienists
AICS: Australian Inventory of Chemical Substances
ATE: Acute Toxicity Estimate
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CSA: Canadian Standards Association
DOT: Department of Transportation
ECHA: European Chemicals Agency
ECOTOX: U.S. EPA Ecotoxicology Database
EINECS: European Inventory of Existing Commercial chemical Substances
ENCS: Existing and New Chemical Substances
EPA: Environmental Protection Agency
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IBC: Intermediate Bulk Container
IECSC: Inventory of Existing Chemical Substances
IMDG: International Maritime Dangerous Goods
IOC: Inventory of Chemicals
IUCLID: International Uniform Chemical Information Database
KECI: Korean Existing Chemicals Inventory
KECL: Korean Existing Chemicals List
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
MN: Minnesota
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
PICCS: Philippine Inventory of Chemicals and Chemical Substances
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
SDS: Safety Data Sheet / Material Safety Data Sheet
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations

SAFETY DATA SHEET

TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2014.
2. International Agency for Research on Cancer Monographs, searched 2015.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2015 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - October 2012 version.
6. California Proposition 65 List - December 26, 2014 version

Preparation Date (mm/dd/yyyy)

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Other special considerations for handling

: Provide adequate information, instruction and training for operators.

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