Material Safety Data Sheet

CAT ANTI-SEIZE (HIGH TEMP)

1. Product and company identification

Material uses : Industrial applications: Antiseize agents

Manufacturer : Chemtool Incorporated
801 West Rockton Road
Rockton, IL 61072 U.S.A.
Tel: +01 815.957.4140
Fax: +01 815.624.0292

Product code : LID1556000

MSDS # : 1415

Validation date : 11/1/2012.

In case of emergency : INFOTRAC
U.S. and Canada - 800.535.5053
Outside the U.S. and Canada - +01 352.323.3500

2. Hazards identification

Emergency overview

Physical state : Solid. [grease]

Color : Bronze.

Odor : Mild. Hydrocarbon.

Signal word : WARNING!

Hazard statements : CAUSES EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

Precautionary measures : Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Use personal protective equipment as required. Wash thoroughly after handling.

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : No known significant effects or critical hazards.

2. Hazards identification

Skin : May cause skin irritation. NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Eyes : May cause eye irritation. No significant irritation expected other than possible mechanical irritation. NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Potential chronic health effects

Chronic effects : Contains material that may cause target organ damage, based on animal data.

Carcinogenicity : Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure. NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

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.

Target organs : Contains material which may cause damage to the following organs: blood, lungs, liver, mucous membranes, gastrointestinal tract, cardiovascular system, upper respiratory tract, skin, eye, lens or cornea.

Over-exposure signs/symptoms

Inhalation : No specific data.

Ingestion : No specific data.

Skin : Adverse symptoms may include the following:
irritation
redness

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

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

3. Composition/information on ingredients

United States

Name	CAS number	%
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	30-50
Natural graphite	7782-42-5	15-30
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	10-20
copper	7440-50-8	10-20
calcium dihydroxide	1305-62-0	7-13
sodium nitrite	7632-00-0	0.5-1.5
Quartz (SiO2)	14808-60-7	0.2-1.0

Canada

3. Composition/information on ingredients

Name	CAS number	%
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	30-50
Natural graphite	7782-42-5	15-30
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	10-20
copper	7440-50-8	10-20
calcium dihydroxide	1305-62-0	7-13
sodium nitrite	7632-00-0	0.5-1.5
Quartz (SiO2)	14808-60-7	0.2-1.0

Mexico

					Classification			
Name	**CAS number**	**UN number**	**%**	**IDLH**	**H**	**F**	**R**	**Special**
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	Not available.	30-50	2500 mg/m³	1	1	0	-
Natural graphite	7782-42-5	Not available.	15-30	1250 mg/m³	1	0	0	-
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	Not available.	10-20	2500 mg/m³	1	1	0	-
calcium dihydroxide	1305-62-0	Not available.	7-13	-	2	0	0	-
sodium nitrite	7632-00-0	Not available.	0.5-1.5	-	1	0	0	-
copper	7440-50-8	Not available.	10-20	100 mg/m³	0	0	0	-

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.

4. First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : 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.

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.

5. Fire-fighting measures

Flammability of the product : No specific fire or explosion hazard.

Extinguishing media

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

Not suitable : None known.

Special exposure hazards : 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. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

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.

6. Accidental release measures

Personal precautions : 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. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

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). Water polluting material. May be harmful to the environment if released in large quantities.

Methods for cleaning up

Small spill : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). 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. Avoid exposure - obtain special instructions before use. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.

7. Handling and storage

Storage : 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) and food and drink. 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.

8. Exposure controls/personal protection

United States

Ingredient	Exposure limits
Distillates (petroleum), solvent-dewaxed heavy paraffinic	**ACGIH TLV (United States, 1/2011).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 6/2009).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **OSHA PEL (United States, 6/2010).** TWA: 5 mg/m³ 8 hours.
Natural graphite	**OSHA PEL 1989 (United States, 3/1989).** TWA: 2.5 mg/m³ 8 hours. Form: Respirable dust **ACGIH TLV (United States, 1/2011).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction **NIOSH REL (United States, 6/2009).** TWA: 2.5 mg/m³ 10 hours. Form: Respirable fraction **OSHA PEL Z3 (United States, 9/2005).** TWA: 15 mppcf 8 hours.
Distillates (petroleum), hydrotreated heavy naphthenic	**ACGIH TLV (United States, 1/2011).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 6/2009).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **OSHA PEL (United States, 6/2010).** TWA: 5 mg/m³ 8 hours.
copper	**OSHA PEL 1989 (United States, 3/1989).** TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dusts and Mists TWA: 0.1 mg/m³, (as Cu) 8 hours. Form: Fume **NIOSH REL (United States, 6/2009).** TWA: 1 mg/m³ 10 hours. Form: Dusts and Mists **OSHA PEL (United States, 6/2010).** TWA: 1 mg/m³ 8 hours. Form: Dusts and Mists TWA: 0.1 mg/m³ 8 hours. Form: Fume **ACGIH TLV (United States, 1/2011).** TWA: 1 mg/m³, (as Cu) 8 hours. TWA: 0.2 mg/m³ 8 hours. Form: Fume
calcium dihydroxide	**ACGIH TLV (United States, 1/2011).** TWA: 5 mg/m³ 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 5 mg/m³ 8 hours. **NIOSH REL (United States, 6/2009).** TWA: 5 mg/m³ 10 hours. **OSHA PEL (United States, 6/2010).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust

8. Exposure controls/personal protection

Quartz (SiO2)	**OSHA PEL Z3 (United States, 9/2005). Notes: 250/(%SiO2+5)** TWA: 250 mppcf 8 hours. Form: Respirable **OSHA PEL Z3 (United States, 9/2005). Notes: 10/(SiO2+2)** TWA: 10 mg/m³ 8 hours. Form: Respirable **OSHA PEL 1989 (United States, 3/1989).** TWA: 0.1 mg/m³, (as quartz) 8 hours. Form: Respirable dust **ACGIH TLV (United States, 1/2011).** TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction **NIOSH REL (United States, 6/2009).** TWA: 0.05 mg/m³ 10 hours. Form: respirable dust **OSHA PEL Z3 (United States, 9/2005). Notes: 30/(%SiO2+2)** TWA: 30 mg/m³ 8 hours. Form: Total dust.

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m³	Other	ppm	mg/m³	Other	ppm	mg/m³	Other	Notations
Natural graphite	US ACGIH 1/2011	-	2	-	-	-	-	-	-	-	[a]
	AB 4/2009	-	2	-	-	-	-	-	-	-	[b]
	BC 9/2011	-	2	-	-	-	-	-	-	-	[c]
	ON 7/2010	-	2	-	-	-	-	-	-	-	[a]
	QC 9/2011	-	2	-	-	-	-	-	-	-	[d]
calcium dihydroxide	US ACGIH 1/2011	-	5	-	-	-	-	-	-	-	
	AB 4/2009	-	5	-	-	-	-	-	-	-	[3]
	BC 9/2011	-	5	-	-	-	-	-	-	-	
	ON 7/2010	-	5	-	-	-	-	-	-	-	
	QC 9/2011	-	5	-	-	-	-	-	-	-	
copper, as Cu	US ACGIH 1/2011	-	1	-	-	-	-	-	-	-	
	US ACGIH 1/2011	-	0.2	-	-	-	-	-	-	-	[e]
	AB 4/2009	-	1	-	-	-	-	-	-	-	[f]
		-	0.2	-	-	-	-	-	-	-	[e]
	BC 9/2011	-	1	-	-	-	-	-	-	-	[g]
		-	0.2	-	-	-	-	-	-	-	[e]
copper	ON 7/2010	-	0.2	-	-	-	-	-	-	-	[e]
	ON 7/2010	-	1	-	-	-	-	-	-	-	[h]
copper, as Cu	QC 9/2011	-	1	-	-	-	-	-	-	-	[i]
	QC 9/2011	-	0.2	-	-	-	-	-	-	-	[j]
Quartz (SiO2)	US ACGIH 1/2011	-	0.025	-	-	-	-	-	-	-	[a]
	AB 4/2009	-	0.025	-	-	-	-	-	-	-	[k]
	BC 9/2011	-	0.025	-	-	-	-	-	-	-	[c]
	ON 7/2010	-	0.1	-	-	-	-	-	-	-	[l]
	QC 9/2011	-	0.1	-	-	-	-	-	-	-	[d]
Distillates (petroleum), solvent-dewaxed heavy paraffinic	US ACGIH 1/2011	-	5	-	-	-	-	-	-	-	[m]
	AB 4/2009	-	5	-	-	10	-	-	-	-	[n]
	ON 7/2010	-	5	-	-	10	-	-	-	-	[o]
	QC 9/2011	-	5	-	-	10	-	-	-	-	[o]
Distillates (petroleum), hydrotreated heavy naphthenic	US ACGIH 1/2011	-	5	-	-	-	-	-	-	-	[m]
	ON 7/2010	-	5	-	-	10	-	-	-	-	[o]
	QC 9/2011	-	5	-	-	10	-	-	-	-	[o]

[3]Skin sensitization

Form: [a]Respirable fraction [b]Respirable (all forms except graphite fibres) [c]Respirable [d]Respirable dust. [e]Fume [f] Dusts and Mists [g]Dusts and mists [h]dust and mists [i]dusts & mists [j]fume [k]Respirable particulate [l]Respirable fraction: means that size fraction of the airborne particulate deposited in the gas-exchange region of the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size–selective sampling criteria for airborne particulate matter; and (b) has the cut point of 4 µm at 50 per cent collection efficiency. [m] Inhalable fraction [n]Mist [o]mist

Mexico

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient	Exposure limits
Distillates (petroleum), solvent-dewaxed heavy paraffinic	**NOM-010-STPS (Mexico, 9/2000).** LMPE-PPT: 5 mg/m³ 8 hours. Form: mist LMPE-CT: 10 mg/m³ 15 minutes. Form: mist
Natural graphite	**NOM-010-STPS (Mexico, 9/2000).** LMPE-PPT: 2 mg/m³ 8 hours.
Distillates (petroleum), hydrotreated heavy naphthenic	**NOM-010-STPS (Mexico, 9/2000).** LMPE-PPT: 5 mg/m³ 8 hours. Form: mist LMPE-CT: 10 mg/m³ 15 minutes. Form: mist
copper	**NOM-010-STPS (Mexico, 9/2000).** LMPE-PPT: 1 mg/m³, (as Cu) 8 hours. Form: powder and fog LMPE-CT: 2 mg/m³, (as Cu) 15 minutes. Form: powder and fog LMPE-PPT: 0.2 mg/m³, (as Cu) 8 hours. Form: smoke LMPE-CT: 2 mg/m³, (as Cu) 15 minutes. Form: smoke
calcium dihydroxide	**NOM-010-STPS (Mexico, 9/2000).** LMPE-PPT: 5 mg/m³ 8 hours.

Consult local authorities for acceptable exposure limits.

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.

Engineering measures : 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.

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

Personal protection

Respiratory : Use a properly fitted, particulate filter 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.

Hands : 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.

Eyes : 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 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 : 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.

8. Exposure controls/personal protection

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.

9. Physical and chemical properties

Physical state : Solid. [grease]

Flash point : Not available.

Auto-ignition temperature : Not available.

Flammable limits : Not available.

Color : Bronze.

Odor : Mild. Hydrocarbon.

pH : Not applicable.

Boiling/condensation point : Not available.

Melting/freezing point : Not available.

Density : 1.2 g/cm^3

Vapor pressure : Not available.

Vapor density : Not available.

Volatility : Not available.

Evaporation rate : Not available.

Viscosity : Not available.

Dispersibility properties : Not available.

Solubility : Insoluble in the following materials: cold water.

10. Stability and reactivity

Chemical stability : The product is stable.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

United States

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), solvent-dewaxed heavy paraffinic	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Distillates (petroleum), hydrotreated heavy naphthenic	LD50 Oral	Rat	>5000 mg/kg	-
calcium dihydroxide	LD50 Oral	Rat	7340 mg/kg	-

11. Toxicological information

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : Contains material that may cause target organ damage, based on animal data.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Distillates (petroleum), hydrotreated heavy naphthenic	Skin - Severe irritant	Rabbit	-	500 milligrams	-
calcium dihydroxide	Eyes - Severe irritant	Rabbit	-	10 milligrams	-
sodium nitrite	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Conclusion/Summary

Skin : May cause skin irritation. NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Eyes : May cause eye irritation. NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Respiratory : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation.

Sensitizer

Conclusion/Summary

Skin : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.

Respiratory : Sensitization not suspected for humans.

Carcinogenicity

Conclusion/Summary : Contains crystalline silica Suspected of causing cancer if inhaled. Risk of cancer depends on duration and level of exposure. NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
sodium nitrite	-	2A	-	-	-	-
Quartz (SiO2)	A2	1	-	+	Proven.	-

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

Canada

Acute toxicity

11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
calcium dihydroxide	LD50 Oral	Rat	7340 mg/kg	-
Distillates (petroleum), solvent-dewaxed heavy paraffinic	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Distillates (petroleum), hydrotreated heavy naphthenic	LD50 Oral	Rat	>5000 mg/kg	-

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : Contains material that may cause target organ damage, based on animal data.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
calcium dihydroxide	Eyes - Severe irritant	Rabbit	-	10 milligrams	-
sodium nitrite	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Distillates (petroleum), hydrotreated heavy naphthenic	Skin - Severe irritant	Rabbit	-	500 milligrams	-

Conclusion/Summary

Skin : May cause skin irritation. NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Eyes : May cause eye irritation. NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Respiratory : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation.

Sensitizer

Conclusion/Summary

Skin : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.

Respiratory : Sensitization not suspected for humans.

Carcinogenicity

Conclusion/Summary : Contains crystalline silica Suspected of causing cancer if inhaled. Risk of cancer depends on duration and level of exposure. NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
sodium nitrite	-	2A	-	-	-	-
Quartz (SiO2)	A2	1	-	+	Proven.	-

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

Teratogenicity

11. Toxicological information

Conclusion/Summary : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

Mexico

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), solvent-dewaxed heavy paraffinic	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Distillates (petroleum), hydrotreated heavy naphthenic	LD50 Oral	Rat	>5000 mg/kg	-
calcium dihydroxide	LD50 Oral	Rat	7340 mg/kg	-

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : Contains material that may cause target organ damage, based on animal data.

Irritation/Corrosion

Product/ingredient name	Result	Score	Score	Exposure	Observation
Distillates (petroleum), hydrotreated heavy naphthenic	Skin - Severe irritant	Rabbit	-	500 milligrams	-
calcium dihydroxide	Eyes - Severe irritant	Rabbit	-	10 milligrams	-
sodium nitrite	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Conclusion/Summary

Skin : May cause skin irritation. NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Eyes : May cause eye irritation. NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Respiratory : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation.

Sensitizer

Conclusion/Summary

Skin : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.

Respiratory : Sensitization not suspected for humans.

Carcinogenicity

Conclusion/Summary : Contains crystalline silica Suspected of causing cancer if inhaled. Risk of cancer depends on duration and level of exposure. NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Classification

11. Toxicological information

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
sodium nitrite	-	2A	-	-	-	-
Quartz (SiO2)	A2	1	-	+	Proven.	-

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

12. Ecological information

Ecotoxicity : Not readily biodegradable. Water polluting material. May be harmful to the environment if released in large quantities.

United States

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
calcium dihydroxide	Acute LC50 33884.4 µg/l Fresh water	Fish - Clarias gariepinus - Fingerling	96 hours
copper	Acute EC50 1100 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 2.1 µg/l Fresh water	Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute IC50 13 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute IC50 5.4 mg/l Marine water	Aquatic plants - Plantae - Exponential growth phase	72 hours
	Acute LC50 0.072 µg/l Marine water	Crustaceans - Amphipoda - Adult	48 hours
	Acute LC50 7.56 µg/l Marine water	Fish - Periophthalmus waltoni - Adult	96 hours
	Chronic NOEC 2.5 µg/l Marine water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
	Chronic NOEC 7 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 0.02 mg/l Fresh water	Crustaceans - Cambarus bartonii - Mature	21 days
	Chronic NOEC 2 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.8 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks
sodium nitrite	Acute EC50 159000 µg/l Marine water	Algae - Tetraselmis chuii	72 hours
	Acute EC50 1600000 µg/l Marine water	Algae - Tetraselmis chuii	96 hours
	Acute LC50 1100 µg/l Fresh water	Crustaceans - Cherax quadricarinatus	48 hours
	Acute LC50 48 µg/l Fresh water	Fish - Ictalurus punctatus - Fingerling	96 hours
	Chronic NOEC 3.37 mg/l Fresh water	Fish - Pimephales promelas -	30 days

12. Ecological information

		Juvenile (Fledgling, Hatchling, Weanling)	

Conclusion/Summary : There are no data available on the mixture itself.

Persistence/degradability

Conclusion/Summary : This product has not been tested for biodegradation. Not readily biodegradable.

Canada

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
calcium dihydroxide	Acute LC50 33884.4 µg/l Fresh water	Fish - Clarias gariepinus - Fingerling	96 hours
copper	Acute EC50 1100 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 2.1 µg/l Fresh water	Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute IC50 13 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute IC50 5.4 mg/l Marine water	Aquatic plants - Plantae - Exponential growth phase	72 hours
	Acute LC50 0.072 µg/l Marine water	Crustaceans - Amphipoda - Adult	48 hours
	Acute LC50 7.56 µg/l Marine water	Fish - Periophthalmus waltoni - Adult	96 hours
	Chronic NOEC 2.5 µg/l Marine water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
	Chronic NOEC 7 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 0.02 mg/l Fresh water	Crustaceans - Cambarus bartonii - Mature	21 days
	Chronic NOEC 2 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.8 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks
sodium nitrite	Acute EC50 159000 µg/l Marine water	Algae - Tetraselmis chuii	72 hours
	Acute EC50 1600000 µg/l Marine water	Algae - Tetraselmis chuii	96 hours
	Acute LC50 1100 µg/l Fresh water	Crustaceans - Cherax quadricarinatus	48 hours
	Acute LC50 48 µg/l Fresh water	Fish - Ictalurus punctatus - Fingerling	96 hours
	Chronic NOEC 3.37 mg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	30 days

Conclusion/Summary : There are no data available on the mixture itself.

Persistence/degradability

Conclusion/Summary : This product has not been tested for biodegradation. Not readily biodegradable.

Mexico

Aquatic ecotoxicity

12. Ecological information

Product/ingredient name	Result	Species	Exposure
calcium dihydroxide	Acute LC50 33884.4 µg/l Fresh water	Fish - Clarias gariepinus - Fingerling	96 hours
sodium nitrite	Acute EC50 159000 µg/l Marine water	Algae - Tetraselmis chuii	72 hours
	Acute EC50 1600000 µg/l Marine water	Algae - Tetraselmis chuii	96 hours
	Acute LC50 1100 µg/l Fresh water	Crustaceans - Cherax quadricarinatus	48 hours
	Acute LC50 48 µg/l Fresh water	Fish - Ictalurus punctatus - Fingerling	96 hours
	Chronic NOEC 3.37 mg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	30 days
copper	Acute EC50 1100 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 2.1 µg/l Fresh water	Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute IC50 13 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute IC50 5.4 mg/l Marine water	Aquatic plants - Plantae - Exponential growth phase	72 hours
	Acute LC50 0.072 µg/l Marine water	Crustaceans - Amphipoda - Adult	48 hours
	Acute LC50 7.56 µg/l Marine water	Fish - Periophthalmus waltoni - Adult	96 hours
	Chronic NOEC 2.5 µg/l Marine water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
	Chronic NOEC 7 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 0.02 mg/l Fresh water	Crustaceans - Cambarus bartonii - Mature	21 days
	Chronic NOEC 2 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.8 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks

Conclusion/Summary : There are no data available on the mixture itself.

Persistence/degradability

Conclusion/Summary : This product has not been tested for biodegradation. Not readily biodegradable.

13. Disposal considerations

Waste disposal : 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.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

13. Disposal considerations

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		**Reportable quantity** 10000 lbs / 4540 kg Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
TDG Classification	Not regulated.	-	-	-		-
Mexico Classification	Not regulated.	-	-	-		-
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

PG* : Packing group

15. Regulatory information

United States

HCS Classification : Irritating material
Carcinogen
Target organ effects

U.S. Federal regulations : **TSCA 5(a)2 final significant new use rules**: sodium nitrite

TSCA 8(a) IUR Exempt/Partial exemption: Not determined

TSCA 8(d) H and S data reporting: sodium nitrite

TSCA 12(b) one-time export: sodium nitrite

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

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: copper; Natural graphite; calcium dihydroxide; sodium nitrite
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: copper: Immediate (acute) health hazard; Natural graphite: Immediate (acute) health hazard; calcium dihydroxide: Immediate (acute) health hazard, Delayed (chronic) health hazard; sodium nitrite: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

15. Regulatory information

Clean Water Act (CWA) 307: copper

Clean Water Act (CWA) 311: sodium nitrite

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)	:	Listed
Clean Air Act Section 602 Class I Substances	:	Not listed
Clean Air Act Section 602 Class II Substances	:	Not listed
DEA List I Chemicals (Precursor Chemicals)	:	Not listed
DEA List II Chemicals (Essential Chemicals)	:	Not listed

SARA 313

		Product name	CAS number	Concentration
Form R - Reporting requirements	:	copper sodium nitrite	7440-50-8 7632-00-0	10-20 0.5-1.5
Supplier notification	:	copper sodium nitrite	7440-50-8 7632-00-0	10-20 0.5-1.5

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

Connecticut Carcinogen Reporting	:	None of the components are listed.
Connecticut Hazardous Material Survey	:	None of the components are listed.
Florida substances	:	None of the components are listed.
Illinois Chemical Safety Act	:	None of the components are listed.
Illinois Toxic Substances Disclosure to Employee Act	:	None of the components are listed.
Louisiana Reporting	:	None of the components are listed.
Louisiana Spill	:	None of the components are listed.
Massachusetts Spill	:	None of the components are listed.
Massachusetts Substances	:	The following components are listed: GRAPHITE (NATURAL)DUST; CALCIUM HYDROXIDE; COPPER; SODIUM NITRITE
Michigan Critical Material	:	None of the components are listed.
Minnesota Hazardous Substances	:	None of the components are listed.
New Jersey Spill	:	None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act	:	None of the components are listed.

15. Regulatory information

New Jersey Hazardous Substances : The following components are listed: MINERAL OIL (UNTREATED and MILDLY TREATED); GRAPHITE (NATURAL); GRAPHITE; SILICA, QUARTZ; QUARTZ (SiO2); MINERAL OIL (UNTREATED and MILDLY TREATED); CALCIUM HYDROXIDE; HYDRATED LIME; COPPER; SODIUM NITRITE; NITROUS ACID, SODIUM SALT

New York Acutely Hazardous Substances : The following components are listed: Copper; Sodium nitrite

New York Toxic Chemical Release Reporting : None of the components are listed.

Pennsylvania RTK Hazardous Substances : The following components are listed: GRAPHITE; QUARTZ (SIO2); CALCIUM HYDROXIDE (CA(OH)2); COPPER FUME; NITROUS ACID, SODIUM SALT

Rhode Island Hazardous Substances : None of the components are listed.

California Prop. 65

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

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Quartz (SiO2)	Yes.	No.	No.	No.

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

Canada

WHMIS (Canada) : Class D-2A: Material causing other toxic effects (Very toxic).
Class E: Corrosive material

Canadian lists

Canadian NPRI : The following components are listed: Copper; Sodium nitrite

CEPA Toxic substances : None of the components are listed.

Canada inventory; DSL/ NDSL : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Mexico

Classification :

International regulations

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: Not determined.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

Europe inventory : All components are listed or exempted.

15. Regulatory information

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

16. Other information

Label requirements : CAUSES EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

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

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). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :

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16. Other information

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.