

Rustoscale #162

SDS Number: 0133

Revision Date: 3/23/2021

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1 PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

Alliance Group Inc. 262-251-4977
N114 W18621 Clinton Drive
Germantown, WI 53022

Phone: 800-255-3924

Emergency: CHEMTEL

Product Identifier: Rustoscale #162
Common Name: Potassium Hydroxide
SDS Number: 0133
Revision Date: 3/23/2021
Product Use: Water Treatment Compound

2 HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS):

Physical, Corrosive to Metals, 1
Health, Acute toxicity, 4 Oral
Health, Acute toxicity, 3 Dermal
Health, Skin corrosion/irritation, 1 A
Health, Serious Eye Damage/Eye Irritation, 1
Environmental, Hazards to the aquatic environment - Acute, 3

GHS Label Elements, Including Precautionary Statements

GHS Signal Word: **DANGER**

GHS Hazard Pictograms:



GHS Hazard Statements:

H290 - May be corrosive to metals
H302 - Harmful if swallowed
H311 - Toxic in contact with skin
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H402 - Harmful to aquatic life

GHS Precautionary Statements:

P234 - Keep only in original container.
P261 - Avoid breathing mist/vapors/spray.
P264 - Wash skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+330+331+312 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.
P303+361+353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+340+310 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.



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P362 + P364 - Take off contaminated clothing and wash it before reuse.
P390 - Absorb spillage to prevent material damage.
P501 - Dispose of contents/container to an approved waste disposal plant.

Hazards not Otherwise Classified (HNOC) or not Covered by GHS

Route of Entry: Eyes; Inhalation; Ingestion; Skin.
Target Organs: Respiratory system; Eyes; Skin.
Inhalation: Can cause severe irritation and inflammation of the respiratory tract.
Skin Contact: Causes skin burns. Toxic if absorbed through skin.
Eye Contact: Causes severe irritation and burns. May cause permanent eye damage.
Ingestion: May cause severe irritation and burns

HMIS III: Health = 3(Chronic), Fire = 0, Physical Hazard = 1

HMIS		
HEALTH	<input checked="" type="checkbox"/>	3
FLAMMABILITY		0
PHYSICAL HAZARD		1
PERSONAL PROTECTION	<input type="checkbox"/>	

3 COMPOSITION/INFORMATION OF INGREDIENTS

Substance/Mixture: Mixture

CAS#	Chemical %	Chemical Name:
7757-83-7	<15%	Sodium sulfite
110-91-8	<6%	Morpholine
1310-58-3	<6%	Potassium hydroxide

4 FIRST AID MEASURES

Inhalation: If symptoms develop, move victim to fresh air. If not breathing, give oxygen or artificial respiration if needed. Consult a physician
Skin Contact: Promptly flush skin with water for 15 minutes. Remove contaminated clothing immediately. Wash with soap and plenty of water. Consult a physician.
Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes, lifting eyelids occasionally to facilitate irrigation. Get immediate medical attention. Continue rinsing during transport to hospital.
Ingestion: If swallowed: If fully conscious, drink a quart of water . Rinse mouth with water. Do NOT induce vomiting. Seek immediate medical attention. If unconscious, take to a hospital or physician. .

5 FIRE FIGHTING MEASURES

Flammability: No data available.
Flash Point: No data available.
Flash Point Method: No data available.



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Burning Rate:	No data available.
Autoignition Temp:	No data available.
LEL:	No data available.
UEL:	No data available.

Fire Fighting Methods

Evacuate area of unprotected personal. Wear protective clothing including NIOSH Approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire exposed containers and disperse vapors.

Extinguishing Media

Suitable: Use water fog, CO2, dry chemical, or alcohol-resistant foam for extinction.

Unsuitable fire extinguisher: No data available.

Unusual Fire or Explosion Hazards: Product may react with some metals to release flammable hydrogen gas. Toxic vapors may be given off at high temperatures.

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ACCIDENTAL RELEASE MEASURES

Personal Precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Never exceed any occupational exposure limits

Environmental Precautions

Prevent further leakage or spillage if safe to do so. Do not let products enter drains. Discharge into the environment must be avoided. Notify authorities if entry occurs.

Spill

Immediately contain and soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. Neutralize residue with dilute hydrochloric acid and dispose of properly. Avoid direct discharge into sewers and surface waters.

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HANDLING AND STORAGE

Handling Precautions: Avoid contact with eyes, skin, or clothing. Avoid breathing vapors or mist. Wash thoroughly after handling. Do not eat, drink or smoke in work area. Empty containers contain residue and can be dangerous.

Storage Requirements: Store in cool, dry area out of direct sunlight and away from heat. Keep away from incompatible materials. Keep container tightly closed. Do not store in unlabeled or mislabeled containers. Do not freeze. Highly corrosive to most metals with evolution of hydrogen gas.

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EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Provide local exhaust ventilation. Maintain adequate ventilation. Do not use in closed or confined spaces

Personal Protective Equipment:

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Respiratory
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to



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engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Eyes and Face

Wear chemical safety goggles while handling this product. Wear additional eye protection such as a face shield when the possibility exists for eye contact with splashing or spraying liquid or airborne material.

Skin

Prevent contact with this product. Wear gloves and protective clothing depending on conditions of use. Protective gloves: gauntlet-type, neoprene, nitrile.

Component	OSHA PEL	ACGIH TWA/ TLV
Potassium Hydroxide	No data available.	2 mg/m ³
Sodium Sulfite	No data available.	No data available.
Morpholine	20ppm -TWA	20ppm - TWA

9**PHYSICAL AND CHEMICAL PROPERTIES**

Appearance:	Clear, straw yellow color	Odor:	Amine odor
Physical State:	Liquid	Molecular Formula:	No data available.
Odor Threshold:	No data available.	Solubility:	Complete
Particle Size:	No data available.	Softening Point:	No data available.
Spec Grav./Density:	1.17	Percent Volatile:	None
Viscosity:	No data available.	Heat Value:	No data available.
Saturated Vapor Concentration:	No data available.	Freezing/Melting Pt.:	32 °F
Boiling Point:	No data available	Flash Point:	No data available.
Flammability:	No data available.	Octanol:	No data available.
Partition Coefficient:	No data available.	Vapor Density:	No data available.
Vapor Pressure:	No data available	VOC:	5.9%
pH:	>13.0	Bulk Density:	No data available.
Evap. Rate:	No data available.	Auto-Ignition Temp:	No data available.
Molecular weight:	No data available.	UFL/LFL:	No data available.
Decomp Temp:	No data available.		

Lower Explosion Limits: No data available.

Upper Explosion Limits: No data available.

NOTE: This product is not to be used in systems where steam from the boiler is used for humidification

10**STABILITY AND REACTIVITY**

Reactivity:	No data available.
Chemical Stability:	Product is stable under normal conditions.
Conditions to Avoid:	Avoid excess exposure to air. Contact with water may cause violent reaction with evolution to heat. To dilute: add product slowly to lukewarm water; not water to product. Contact with acid or incompatible materials may cause a violent reaction.
Materials to Avoid:	Nitrites. Acids. Nitrates. Strong oxidizing agents. Mineral acids. Acrylonitrile. Organic peroxides. Metals such as aluminum, zinc, tin, etc. Food Sugars. DO NOT USE sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines may be formed.
Hazardous Decomposition:	Sulfur dioxide, sulfur oxides, sodium sulfide residue. Toxic vapors. Potassium dioxide. May react with certain metals to produce hydrogen gas
Hazardous Polymerization:	Will not occur under normal conditions.



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TOXICOLOGICAL INFORMATION

Toxicity Data:

Eye Effects: Causes severe eye irritation and burns. May cause: blurred vision, redness, pain, conjunctivitis, ulcerations, tissue destruction, permanent eye damage, blindness. Mist may cause irritation. Effects may vary depending on length of exposure, solution concentration, and first aid measures.

- » Sodium Sulfite Eyes - Rabbit: mild eye irritation
- » Morpholine Eyes - Rabbit: severe eye irritation
- » Potassium Hydroxide Eyes - Rabbit: no data available

Skin Effects: Causes severe irritation and burns. Contact may cause allergic skin reaction, redness, scab formation. Note that irritation may follow an initial latency. The latency may vary as much as hours for dilute solutions to minutes for more concentrated solutions. Prolonged and repeated exposure to dilute solutions may cause irritation, redness, pain and drying and cracking of the skin.

- » Sodium Sulfite Dermal LD50 - Rat: >2000 mg/kg
Skin corrosion/irritation- Rabbit = no skin irritation
- » Morpholine Dermal LD50 - Rabbit: 500 mg/kg
Skin corrosion/irritation- Rabbit = severe skin irritation -24H
- » Potassium Hydroxide Dermal LD50 - no data available
Skin corrosion/irritation- no data available

Inhalation Effects: Causes severe irritation and burns. May cause severe or deadly allergic reaction in some asthmatics. Possible signs or symptoms of allergic reaction may include rash, hives, respiratory distress, GI disturbances, and contact dermatitis. May irritate throat, nose, mouth, lungs. May cause shortness of breath, wheezing, coughing, sneezing, chest pain, impaired lung function, pulmonary edema, death. Repeated exposure may cause permanent lung damage.

- » Sodium Sulfite Inhalation LC50 - Rat: >5500 mg/m³ - 4H
- » Morpholine Inhalation LC50 - Rat: 8000 mg/m³ - 8H
- » Potassium Hydroxide Inhalation LC50: no data available

Ingestion Effects: Causes severe irritation and burns. May cause damage to the: mouth, throat, esophagus, stomach, gastrointestinal tract. May cause: abdominal pain, vomiting, diarrhea, bleeding ulcerations, perforation of the mucous membranes. Blood loss through damaged tissue can lead to low blood pressure and shock. Effects may be delayed. Effects from chronic exposure would be similar to those from single exposure.

- » Sodium Sulfite Oral LD50 - Rat: 3560 mg/kg
- » Morpholine Oral LD50 - Rat: 1450 mg/kg
- » Potassium Hydroxide Oral LD50: no data available

Potential Chronic Health Effects:

Carcinogenicity:

- » Sodium Sulfite IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans
- » Morpholine IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans
Mouse - Oral: Tumorigenic - neoplastic by RTECS criteria. Lungs, thorax, or respiration: Bronchiogenic carcinoma. Liver: tumors.

Mutagenicity:

- » Morpholine Mouse - Lymphocyte: morphological transformation
Hamster - Ovary: sister chromatid exchange

Teratogenicity: No data available.

Fertility Effects: No data available.

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ECOLOGICAL INFORMATION

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Biodegradability: No data available.**Ecotoxicity** Toxicity to fish:LC50- *Gambusia affinis* (Mosquito fish) - 660 mg/L- 96 hr (Sodium Sulfite)LC50-*Oncorhynchus mykiss* (Rainbow Trout) - 180-330 mg/L- 96 hr (Morpholine)

Toxicity to aquatic invertebrate:

EC50-*Daphnia magna* (water flea) - 100 mg/l - 48 hr (Morpholine)

Bioaccumulative potential: No data available

Mobility in soil: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life.

13**DISPOSAL CONSIDERATIONS**

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

Since emptied containers retain product residue, follow label warnings even after container is emptied. DO NOT pressurize, cut, weld, solder, drill, grind, or expose empty containers to heat, flame, sparks or other sources of ignition.

RCRA: Hazardous Waste Code: D002

14**TRANSPORT INFORMATION**

UN3266, Corrosive liquid, basic, inorganic, n.o.s., 8, PGII, (Potassium Hydroxide, Morpholine)

**15****REGULATORY INFORMATION**

This product does not contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

FEDERAL REGULATIONS

TSCA Inventory Status: All components of this product are listed as "Active" on the Toxic Substances Control Act (TSCA) 8 (b) Inventory.

CERCLA / SARA Emergency Reporting: A spill or release of this material may trigger the emergency release reporting requirements under CERCLA (40 CFR Part 300) and/or SARA Title III (40 CFR Part 355). State or local reporting requirements may differ from federal requirements.

» **Potassium Hydroxide CERCLA reporting amount = 1000 lbs**

SARA Title III Section 313: This product does not require reporting.

Clean Water Act (CWA): The following chemicals are listed under Section 311 as hazardous substances requiring the submission of a National Pollutant Discharge Elimination System (NPDES) permit application to EPA. »
Potassium Hydroxide.



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STATE REGULATIONS

California- The following components are listed under Prop 65: None of the chemicals are listed.

Massachusetts - RTK Substances: The following components are listed: Morpholine (CAS# 110-91-8), Potassium Hydroxide (CAS# 1310-58-3)

New Jersey - RTK Substances: The following components are listed: Morpholine (CAS# 110-91-8), Sodium Sulfite (CAS# 7757-83-7), Potassium Hydroxide (CAS# 1310-58-3)

Pennsylvania - RTK Substances: The following components are listed: Morpholine (CAS# 110-91-8), Sodium Sulfite (CAS# 7757-83-7), Potassium Hydroxide (CAS# 1310-58-3)

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OTHER INFORMATION

Prepared By: P May

Reason For Revision: Updated GHS & Regulatory Information

Disclaimer:

This information is given in good faith and based on our current knowledge of the product. However, it is the responsibility of the user to comply with all Federal, State, and Local laws and regulations.

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