Material **S**afety
Data **S**heet

U·E·I Systems
A UEI® GROUP COMPANY

9090 Nieman • Overland Park, KS 66214 • (913) 541-0503 • Toll Free: 800-221-9059 • sales@ueisystems.com • ueisystems.com

Section I Chemical Product and Company Identification

Product Identifier: AquaMulsion® Positive Developer

General Use: Developing images on pre-sensitized metal

Company: UEI® Systems, A UEI Group Company
Address: 9090 Nieman Road
Overland Park, KS 66214 USA
Phone: +1 800 221 9059 or +1 913 541 0503

Emergency Contact Number: CHEMTREC – Available 24 hours/day, 7 days/week
Domestic North America: +1 800 424 9300
International: +1 703 527 3887

Section II Hazardous Ingredients / Identity Information

Hazardous Components	CAS No.	%	OSHA (PEL/TWA)	ACGIH TLV	MSHA (PET/TWA)
Sodium Metasilicate	6834-92-0	70–80%	NA	NA	NA

Section III Hazard Identification

Emergency Overview: Corrosive to eyes and skin

Routes of Entry: Inhalation, ingestion, and skin absorption

Carcinogenicity: No known chronic hazards. Not listed by OSHA, NTP, or IARC as a carcinogen.

Medical Condtions Aggravated: Contact with this material may aggravate existing skin conditions.

HEALTH HAZARDS (Acute and Chronic)

Eyes: Causes burns. With greater exposure, severe burns and possible blindness.

Skin: Causes burns. With greater exposure, severe burns and scarring.

Ingestion: Causes burns to mouth, throat, esophagus, and digestive tract. With greater exposure, death may result.

Inhalation: This product as supplied is not respirable. If dust is generated from this product, it can cause burns to the respiratory tract if inhaled.

SIGN AND SYMPTOMS OF EXPOSURE

Eyes: Redness, pain, and corneal opacity to exposed eyes

Skin: Exposed skin will turn red and feel slippery with a burning sensation.

Ingestion: Will cause a burning pain in the mouth, esophagus, and digestive tract

Inhalation: Product dust will cause mild irritation to burning pain depending on severity of exposure. Difficult or painful breathing may occur.

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Section IV First Aid Measures

In all cases, call a physician immediately.

Ingestion: **Do not induce vomiting**. Never give anything to an unconscious person.

Inhalation: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Section V Firefighting Measures

Flash Point: NA

Flammable Limits: NA

Auto-ignition Temperature: NA

Extinguishing Media: Compatible with all extinguishing media.

Special Firefighting Procedures: Firefighters should protect themselves from contact with the product with eye protection and full protective clothing.

Unusual Fire and Explosion Hazards: NA

Section VI Accidental Release Measures

Clean-up personnel should wear chemical goggles, chemical resistant gloves, and rubber boots. Use NIOSH-certified respirator for dust where dust occurs. For small spills gently moisten the powder with tap water until the powder becomes a paste. Do not remove any powder until it is in paste form. Then pick up paste with paper towels or a mop and rinse the towels or mop in a container of water. When the spill is completely picked up dispose of the water, the towels, and the mop head in an approved manner. For large spills sweep, scoop, or vacuum spilled material. In case of contact with water, prevent runoff from entering into storm sewers and natural waterways. Ensure compliance with local, state and federal regulations.

Section VII Handling and Storage

This product absorbs water from the air. Store in original packaging inside of tightly closed plastic containers.

Do not store in aluminum, fiberglass, copper brass, zinc, or galvanized containers.

Use inventory in a first-in, first-out basis.

Separate from acids, reactive metals, and ammonium salts

Store at temperatures below 160° F

Section VIII Exposure Controls and Personal Protection

Engineering Controls: Use only in a well-ventilated area.

Personal Protection: Wear chemical resistant rubber gloves, chemical safety goggles (contact lenses should not be worn), chemical resistant body covering, and boots. Safety shower and eye wash stations should be located in the work area. Wash thoroughly after handling product. Use NIOSH-approved dust respirator where dust occurs. Observe OSHA regulations for respirator use.

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Section IX Physical And Chemical Properties

Boiling Point:	NA	**Melting Point:**	NA
Physical State:	Solid	**Vapor Pressure:**	17.5
Vapor Density (Air=1):	0.015	**Solubility in Water:**	Complete
pH:	> 12 to 13	**Specific Gravity (Water=1):**	Solid material
Viscosity:	NA	**Evaporation Rate (n-BuAc=1):**	0.5

Appearance: White to off-white granular powder with no odor

Section X Stability and Reactivity

Stability: Stable

Conditions to Avoid: None known

Incompatibility: Contact with acids. Generates heat when mixed with acid. May react with ammonium salt solutions resulting in evolution of ammonia gas. Flammable hydrogen gas may be produced on contact with aluminum, tin, lead, and zinc. Carbon monoxide gas may be produced on contact with reducing sugars.

Hazardous Decomposition/ By-Products: Hydrogen

Hazardous Polymerization: **Will not occur**

Section XI Toxicological Information

PRINCIPLE ROUTES OF EXPOSURE

Ingestion: Corrosive. Causes burns to the mouth, throat and stomach.

Skin Contact: Corrosive. Causes burns.

Inhalation: Corrosive to respiratory passage.

Eye Contact: Corrosive. Causes eye burns.

Additional Information: This material has not been tested for primary eye irritation potential. However, on the basis of its high degree of alkalinity, it is regarded as corrosive to the eyes. When this material was tested for skin corrosion/irritation potential according to OECD Guidelines Section 404, it produced dermal corrosion. The acute oral toxicity of this product has not been tested. When sodium silicates were tested on a 100% solids basis, their single dose acute oral LD50 in rats ranged from 1500 mg/kg to 3200 mg/kg. The acute oral lethality resulted from non-specific causes.

Subchronic Data: In a study of rats fed sodium silicate in drinking water for three months, at 200, 600 and 1800 ppm, changes were reported in the blood chemistry of some animals, but no specific changes to the organs of the animals due to sodium silicate administration were observed in any of the dosage groups. Another study reported adverse effects to the kidneys of dogs fed sodium silicate in their diet at 2.4g/kg/day for 4 weeks, whereas rats fed the same dosage did not develop any treatment-related effects. Decreased numbers of births and survival to weaning was reported for rats fed sodium silicate in their drinking water at 600 and 1200 ppm.

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Section XI Toxicological Information, cont.

ACUTE TEST OF PRODUCT

Acute Oral LD50: NA

Acute Dermal LD50: NA

Acute Inhalation LC50: NA

Carcinogenicity:

Ingredients	NTP	IARC	OSHA	Other
Disodium metasilicate	Not listed	Not listed	Not listed	Not listed
Water	Not listed	Not listed	Not listed	Not listed

Carcinogenicity Comment: There are no known reports of carcinogenicity of sodium silicates.

Reproductive Toxicity/Teratogenicity/ Embryotoxicity/Mutegenicity: Sodium silicate was not mutagenic to bacterium E. Coli when tested in a mutagenicity bioassay.

Section XII Ecological Information

Ecotoxicological Information: The following data is reported for sodium silicates on a 100% solids basis: A 96 hour median tolerance for fish (*Gambusia affnis*) of 2320 ppm; a 96 hour median tolerance for water fleas (*Daphnia magna*) of 247 ppm; a 96 hour median tolerance for snail eggs (*Lymnea*) of 632 ppm; and a 96 hour median tolerance for Amphipoda of 160 ppm. Sinks and dissolves in water. This material is not persistent in aquatic systems, but its high pH when undiluted or unneutralized is actually harmful to aquatic life. Diluted material rapidly depolymerizes to yield dissolved silica in a form that is indistinguishable from natural dissolved silica. It does not contribute to BOD. This material does not bioaccumulate except in species that use silica as a structural material such as diatoms and siliceous sponges. Where abnormally low natural silica concentrations exist (less than 0.1 ppm), dissolved silica may be a limiting nutrient for diatoms and a few other aquatic algal species. However, the addition of excess dissolved silica over the limiting concentration will not stimulate the growth of diatom populations; their growth rate is independent of silica concentration once the limiting concentration is exceeded. Neither silica nor sodium will appreciably bioconcentrate up the food chain.

Section XIII Disposal Information

Disposal of Waste Method: Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.

Contaminated Packaging: Empty containers should be recycled or disposed of through an approved waste management facility.

Section XIV Transport Information

DOT (US)

DOT Shipping Name: Corrosive solid, Basic, Inorganic N.O.S. (Sodium Metasilicate Anhydrous)

DOT Hazard Class: 8

DOT UN Number: UN3262

DOT Packing Group: II

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Section XV Regulatory Information

U.S. TSCA Inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

U.S. REGULATORY RULES

Ingredients	CERCLA/SARA Section 302	SARA (311, 312) Hazard Class	CERCLA/SARA Section 313
Disodium Metasilicate	Not listed	Not listed	Not listed
Water	Not listed	Not listed	Not listed

California Proposition 65: Not listed

MA Right To Know List: Not listed

New Jersey Right To Know List: Not listed

Pennsylvania Right To Know List: Not listed

WHMIS Hazardous Class: E

Section XVI Other Information

UEI® Systems provides the information contained herein in good faith. It is believed to be correct. However it is not all inclusive and should be used only as a guide. Individuals receiving this information must exercise their independent judgement in determining its appropriateness for a particular purpose. UEI Systems shall not be held liable for any damage resulting from handling or from contact with this product. All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources.

Abbreviations:
PEL Permissible Exposure Limit
TLV Threshold Limit Value
NA Not Applicable