

### Section 1: Product and Company Identification:

#### 1.1 Product Identifier

Product Form:	Mixture
Identification of Substance:	Potassium Methyl Silicate
Product Name:	NYACOL® K-Sol
Synonym:	Potassium methylsilanetriolate
CAS Number:	31795-24-1
Index Number:	Not available.
EINECS Number:	250-807-9
REACH Registration Number:	Not Registered.
Formula:	CH <sub>3</sub> K <sub>3</sub> O <sub>3</sub> Si

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use:	Water repellent.
Restrictions on Use:	For industrial use only, not for food, drug or home use.

#### 1.3 Details of the supplier of the safety data sheet

Company Identification:	Nyacol Nano Technologies, Incorporated Megunko Road, P.O. Box 349, Ashland, MA 01721 U.S.A. +1 508-881-2220
Email Contact:	<a href="mailto:info@nyacol.com">info@nyacol.com</a>
Internet:	<a href="http://www.nyacol.com">www.nyacol.com</a>

#### 1.4 Emergency telephone number

In Case of Emergency:	USA/Canada CHEMTREC: +1 (703) 527-3887 International CHEMTREC: +1 (703) 741-5970 24 Hours/Day: 7 Days/Week
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### Section 2: Hazard(s) Identification

#### 2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)  
 Skin Corr. Category 1A, H314 – Causes severe skin burns and eye damage.

Classification according to Regulation (EC) No. 1272/2008 (CLP)  
 Skin Corr. Category 1A, H314 – Causes severe skin burns and eye damage.

#### 2.2 Label Elements



Signal Word: Danger

Hazard determining components of labelling:	Potassium methylsilanetriolate, CAS 31794-24-1
Hazard Statement(s):	H314 – Causes severe skin burns and eye damage.

**Precautionary Statement(s):**

P260 – Do not breathe fumes.  
 P264 – Wash face, hands and any exposed skin thoroughly after handling.  
 P280 – Wear protective gloves/protective clothing/eye protection/face protection.  
 P301+P330+P331 – IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
 P303+P361+P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water / shower.  
 P363 – Wash contaminated clothing before reuse.  
 P304+P340 – IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.  
 P310 – Immediately call a POISON CENTER or doctor / physician.  
 P321 – Specific treatment – see First Aid Section 4.  
 P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
 P405 – Store locked up.  
 P501 – Dispose of contents/container in accordance with local/regional/national/international regulations.

**2.3 Other Hazards**

Components do not meet the criteria for a PBT or vPvB substance.

**2.4 Unknown acute toxicity (GHS US)**

No data available.

## Section 3: Composition / Information on Ingredients

**3.1 Chemical characterization: Mixtures**

Description: Mixture consisting of the following components.

Component Name	Product Identifier	GHS Classification	Percent By Weight
Potassium methyl silicate:	CAS: 31795-24-1 EINECS: 250-807-9 Index: Not available	Skin corr. 1A – H314	30 – 40
Water:	CAS: 7732-18-5 EINECS: 231-791-2 Index: Not available	Not classified	60

Impurities: Present at a level below that to be taken into account for classification.

Stabilizing Additives: None

The supplier currently has no knowledge on additional ingredients that are classified and that contribute to the classification of this substance.

See Section 16 for a list of hazards if identified above.

## Section 4: First-Aid Measures

**4.1 Description of first aid measures**

**Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of the eye and lids with water. Get medical attention.

**Skin Contact:** Immediately flush skin with plenty of water for several minutes. Remove contaminated clothing. Get medical attention immediately.

**Inhalation:** Remove to fresh air; remove person from exposure source. Get medical attention immediately.

**Ingestion:** Rinse mouth with water. Do NOT induce vomiting unless directed by medical professional. Never give anything by mouth to an unconscious person. Get medical attention immediately.

First Aid Facilities:

Eye wash station.

Advice to Physicians:

No further relevant information available.

### 4.2 Most important symptoms and effects, both acute and delayed

Causes severe skin burns and eye damage. May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea.

### 4.3 Indication of any immediate medical attention and special treatment needed.

No further relevant information available.

## Section 5: Fire-Fighting Measures

### 5.1 Extinguishing Media

Suitable Extinguishing Media: Use fire fighting measures that suit the environment.

Unsuitable extinguishing media: None known.

### 5.2 Special hazards arising from the substance or mixture

Flammability of the product: Containers can build pressure if exposed to heat or fire.

Special Hazard Arising from the Chemical: No further relevant information available.

Fire Hazard: No further relevant information available.

Explosion Hazard: No further relevant information available.

Reactivity: No further relevant information available.

### 5.3 Advice for firefighters

Special Protective Equipment for Fire-fighters: Avoid all eye and skin contact and do not breathe vapor and mist. Wear standard full firefighter turn-out gear (full bunker gear) and respiratory protection (SCBA).

## Section 6: Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Eye protection and impervious gloves. Avoid mist formation. An approved air-purifying respirator should be worn if mist is present.

#### 6.1.1 For non-emergency personnel

Evacuate unnecessary personnel. Wear protective equipment. Keep unprotected persons away.

### 6.2 Environmental precautions

Prevent entry into sewers and waterways or onto the ground.

### 6.3 Methods and material for containment and cleaning up

Ventilate area. Avoid breathing mist, fumes, or vapors. Avoid contact with skin, eyes or clothing. Wear appropriate personal protective equipment, including appropriate respiratory protection. Recover for recycle or disposal. Put in appropriate container. Prevent entry into sewers and waterways.

### 6.4 Reference to other sections

For more information on exposure controls and personal protection or disposal considerations, check section 8 and 13 of this SDS.

## Section 7: Handling and Storage

### 7.1 Precautions for safe handling

Minimum feasible handling, and temperatures should be maintained. Avoid generating mist during use. Use only in well ventilated area. Do not breath mist or vapors.

#### 7.1.1 Protective measures

Use only in well ventilated areas. As a precautionary measure, the wearing of standard work gear is suggested. Keep ignition sources away. Do not smoke. Protect from heat. Protect against electrostatic charges.

#### 7.1.2 Advice on general occupational hygiene

Avoid inhalation, ingestion and contact with eyes. General occupational hygiene measures are required to ensure a safe handling of the substance. These measures involve good personal and housekeeping practices (i.e. regular cleaning with suitable cleaning devices), no eating, drinking and smoking at the workplace and wearing standard working clothes and shoes unless otherwise stated. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas. Shower and change clothes at end of work shift. Do not wear contaminated clothing at home.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep from freezing. Periods of exposure to high temperatures should be minimized. Water contamination should be avoided. Provide sufficient ventilation in storage and workrooms. Store in a cool dry area. Keep containers tightly sealed.

### 7.3 Specific end use(s)

No additional information available. Refer to Section 1.2 of this SDS.

## Section 8: Exposure Controls / Personal Protection

### 8.1 Control Parameters

#### 8.1.1 National Limit Values

Potassium methyl silicate, CAS 31795-24-1

No data available.

### 8.2 Exposure Controls

#### Engineering Controls:

Ventilation adequate to meet occupational exposure limits.

#### Hygiene Measures:

Workers should wash exposed skin several times daily with soap and water. Soiled work clothing should be laundered or dry-cleaned.

#### Respiratory:

Airborne concentrations should be kept to lowest levels possible. If vapor, mist or dust is generated and the occupational exposure limit of the product, or any component of the product, is exceeded, use appropriate NIOSH or MSHA approved air purifying or air supplied respirator after determining the airborne concentration of the contaminant. Air-supplied respirators should always be worn when airborne concentrations of the contaminant or oxygen content is unknown.

#### Hands:

Wear impervious gloves such as neoprene.

#### Eyes:

Safety glasses, chemical type goggles, or face shield recommended to prevent eye contact.

#### Skin:

Wear clean body-covering clothing; impervious gloves such as neoprene. Workers should wash exposed skin several times daily with soap and water. Soiled work clothing should be laundered or dry-cleaned.

#### Environmental Exposure Controls:

Adverse effects of this material on the environment have not been evaluated. Proper disposal techniques to isolate and recover material should be implemented.

## Section 9: Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

Appearance (Physical State, Color):	Liquid; clear to slightly yellow.
Upper/lower flammability or explosive limits:	Not determined.
Volatile by Weight:	60%
Odor:	Not determined.
Vapor Pressure:	Not determined.
Odor Threshold:	Not determined.
Vapor Density:	Not determined.
pH:	13.0
Density:	Not determined.
Melting point/freezing point:	Not determined.
Solubility in Water:	Not determined.
Initial boiling point and boiling range:	> 64°C
Flashpoint:	> 212°F / > 100° C (closed cup)
Evaporation Rate:	Not determined.

Flammability (solid, gas):	Not determined.
Partition Coefficient:	Not determined.
Auto-ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
Viscosity:	<15 cP
Specific Gravity:	1.2
Freezing Point:	Not determined.
Explosion Limits:	Not applicable.
Oxidizing Properties:	Not available.

### 9.2 Other information

Not applicable.

## Section 10: Stability and Reactivity

### 10.1 Reactivity

There are no known reactivity hazards associated with this product.

### 10.2 Chemical Stability

Stable under normal ambient and anticipated storage and handling conditions.

### 10.3 Possibility of hazardous reactions

No further relevant information available.

### 10.4 Conditions to avoid

No further relevant information available.

### 10.5 Incompatible materials

Avoid contact with acids. Oxidizing materials can cause a reaction.

### 10.6 Hazardous decomposition products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: carbon oxides and traces of incompletely burned carbon compounds. Metal oxides. Silicon dioxide. Formaldehyde.

## Section 11: Toxicological Information

### 11.1 Information on toxicological effects

Acute toxicity:

LD50, Rat, Oral Values for classification:

Potassium methy silicate: No data available.

Skin corrosion/irritation:

Causes severe skin burns and eye damage.

Eye damage/irritation:

May cause serious eye irritation or damage. Avoid contact with

Inhalation:

May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea.

Sensitization:

No sensitizing effect known.

Chronic Effects:

No further relevant information available.

Carcinogenicity

No data indicating any concern for carcinogenicity.

## Section 12: Ecological Information

### 12.1 Toxicity

No further relevant information available.

### 12.2 Persistence and degradability

There is no data on the degradability of this product.

### 12.3 Bioaccumulative potential

No further relevant information available.

### 12.4 Mobility in soil

No further relevant information available.

### 12.5 Results of PBT and vPvB Assessment

The PBT and vPvB criteria of Annex XIII to the Regulation do not apply to this product.

### 12.6 Other adverse effects

No further relevant information available.

### Section 13: Disposal Considerations

This information presented only applies to the materials as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Disposal Considerations:	The product is corrosive, D002. State or local laws may impose additional regulatory requirements regarding disposal.
United States:	RCRA Hazard Class (40 CFR 261): Classified as a hazardous waste.

### Section 14: Transport Information

#### 14.1 UN Number:

U.S. DOT, ICAO/IATA, IMO/IMDG, ADR:	UN1719
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#### 14.2 UN Proper Shipping Name:

U.S. DOT, ICAO/IATA, IMO/IMDG, ADR:	Caustic alkalie liquids, N.O.S. (Potassium methylsiliconate)
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#### 14.3 Transport hazard class(es):

U.S. DOT, ICAO/IATA, IMO/IMDG, ADR:	8 – Class 8 – Corrosive material 49 CFR 173.136
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Hazard labels (DOT):	8 – Corrosive
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#### 14.4 Packing Group:

U.S. DOT, ICAO/IATA, IMO/IMDG, ADR:	II
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#### 14.5 Environmental hazards:

Not applicable.

#### 14.6 Special precautions for users:

None.

#### 14.7 Transport bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

#### Transport/Additional Information:

The product is not restricted for transportation.

### Section 15: Regulatory Information

#### 15.1 Safety, health and environmental regulations/legislation specific for substance or mixture:

##### Worldwide Chemical Inventories

EINECS (EU):	All ingredients listed
TSCA (USA):	All ingredients listed
DSL (Canada):	All ingredients listed
AICS (Australia):	All ingredients listed
ENCS (Japan):	All ingredients listed
ECL (Korea):	All ingredients listed
PICCS (Philippines):	All ingredients listed
IECSC (China):	All ingredients listed

State Right-to-Know Laws:	Section 3 of this SDS lists all components of the product.
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California Proposition 65:

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

CAS# 67-56-1 Weight %: &lt;=0.5000

Component name: Methyl Alcohol – Developmental toxin.

WHMIS:

Class E.

Transportation of Dangerous Goods:

See Section 14.

SARA Section 311/312 (29 CFR 1910.1200) Hazards: Serious eye damage or eye irritation. Skin corrosion or irritation.

SARA 313, 304 and CERCLA 102 (A):

None present or none present in regulated quantities. Chemicals are listed under 313 Toxic Chemical section only if they meet or exceed reporting threshold.

**15. 2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

**Section 16: Other Information**

List of relevant phrases:

H314: Causes severe skin burns and eye damage

National Fire Protection Association (U.S.A.) 704

HMIS® Hazard Rating:

Health-2, Flammability-0, Reactivity-0, Special-None

Health-3, Flammability-1, Reactivity-0, Protective Equipment – D; Face Shield/Eye Protection; Safety Gloves; Synthetic Apron.

Recommended Use:

The product is recommended for use as a water repellent. Other uses have not been investigated and may have other hazards. For industrial use only, not for food, drug or home use.

Work Alert:

Workers using the product should read and understand this SDS and be trained in the proper use of this material.

Other Special Considerations:

None known.

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This SDS has been prepared with data from Nyacol Nano Technologies, Inc.'s laboratories, raw material suppliers, and government publications. Information herein is accurate to the best of our knowledge. Suggestions are made without warranty or guarantee of results. Before using, the user should determine the suitability of the products for the intended use, and the user assumes the risk and liability in connection therewith. We do not suggest violation of any existing patents or give permission to practice any patented invention without license.

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