

Ergon Armor **Revision Number:** 4.000
Issue Date: 06/11/2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: K14® SOLUTION **ID(s):**

Product type: Potassium Silicate solution **Region:** United States

Company address: Ergon Armor
Corrosion Engineering
10000 North Central Expressway
Dallas, TX 75243-1000

Contact information:
Telephone: +1 972 424 9300
Emergency: Call CHEMTREC at 800.424.9300
Internet: www.ergonarmor.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state: Liquid	HMIS:	
Color: Clear to hazy	HEALTH:	1
Odor: None	FLAMMABILITY:	0
	PHYSICAL HAZARD:	0
	Personal Protection:	See MSDS section 8
	0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe	
	* = Chronic Health Hazard	

WARNING! CAUSES EYE AND SKIN BURNS. MAY CAUSE BLINDNESS. CAUSES DIGESTIVE TRACT BURNS, CAN CAUSE RESPIRATORY TRACT IRRITATION.

Relevant routes of exposure: Inhalation and skin and eye contact

Potential Health Effects

- Inhalation:** Inhalation of mist or dust may cause severe irritation to the skin, eyes and upper respiratory tract with effects such as coughing, burning and shortness of breath.
- Skin contact:** Due to the alkaline nature of this material, it is corrosive to the skin.
- Eye contact:** Due to the alkaline nature of this material, it is corrosive to the eyes.
- Ingestion:** Due to the alkaline nature of this material, it is corrosive to the digestive tract.

Existing conditions aggravated by exposure: Dry skin, dermatitis, existing lung conditions.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS-No.	%
Water	7732-18-5	60 - 75
Potassium Silicate	1312-76-1	25 - 40

4. FIRST AID MEASURES

- Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- Skin contact:** Immediately flush with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Destroy contaminated shoes.
- Eye contact:** Immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.
- Ingestion:** Do NOT induce vomiting. Give water to drink. Get medical attention immediately. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

5. FIRE FIGHTING MEASURES

- Flash point:** NA
- Autoignition temperature:** NA
- Flammable/Explosive limits - lower:** NA
- Flammable/Explosive limits - upper:** NA
- Extinguishing media:** Use extinguishing media appropriate to surrounding fire conditions.
- Special firefighting procedures:** Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.
- Unusual fire or explosion hazards:** Avoid breathing fumes from fire-exposed material.
- Hazardous combustion products:** NA

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

- Environmental precautions:** Contain spills.
- Clean-up methods:** Contain spill. Sweep or scoop up and remove to suitable container. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

7. HANDLING AND STORAGE

- Handling:** Do not taste or swallow. Do not get in eyes, on skin or on clothing. Avoid breathing vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.
- Storage:** Store in a cool, dry, well ventilated place. Avoid freezing temperatures (32°F (0°C) or lower). Avoid excessive heat. Store out of direct sunlight.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Water	NE	NE	NE	
Potassium Silicate	NE	NE	NE	

Engineering controls: Investigate engineering techniques to reduce exposures. Provide ventilation if necessary to control exposure levels. If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Respiratory protection: Do not breathe mist. Do not breathe vapor. When airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Eye/face protection: Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment available.

Skin protection: Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Rinse contaminated skin promptly. Wash contaminated clothing and clean protective equipment before reuse. Wash skin thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Clear to hazy
Odor:	None
Odor threshold:	NA
pH:	11 - 13
Vapor pressure:	Nil
Boiling point/range:	212°F (100°C)
Melting point/ range:	32°F (0°C)
Specific gravity:	1.42 @ 25/25 deg C
Vapor density:	NA
Flash point:	NA
Flammable/Explosive limits - lower:	NA
Flammable/Explosive limits - upper:	NA
Autoignition temperature:	NA
Evaporation rate:	NE
Solubility in water:	Soluble
Partition coefficient (n-octanol/water):	NA
VOC content:	None

10. STABILITY AND REACTIVITY

Stability: This material is chemically stable under normal and anticipated storage and handling conditions.

Hazardous polymerization: Not known to occur.
Hazardous decomposition products: None known
Incompatibility: Contact with strong acids and strong alkalis may result in an exothermic reaction, which is characterized by the generation of heat and possible splattering of the chemical involved.
Conditions to avoid: NA

11. TOXICOLOGICAL INFORMATION

Toxicological Information

Data available for this material and/or its components are summarized below:

General Product Information:

No information available for the product.

Component Data:

Potassium Silicate

LD50/LC50:

Human case reports indicate that direct contact with the skin causes burns.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal:

Recover, reclaim or recycle when practical. Dispose of in accordance with federal, state and local regulations. Empty containers retain product residue. Note: Chemical additions to, processing of, or otherwise altering this material may render information in this document to be incomplete, inaccurate or otherwise inappropriate for waste management purposes. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

Dispose of in an approved land fill if allowed locally. Dispose of in a permitted waste management facility if landfill is not practical.

Disposal Regulatory Requirements:

It is the responsibility of the waste generator to determine if the waste meets the definition of a hazardous waste as promulgated at 40 CFR Part 261 subpart C. No EPA Waste Numbers are applicable for this product's components.

14. TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR):

Proper shipping name: Not regulated

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

SARA 311/312: Acute health hazard

Applicable component data listed below:

TSCA 12(b) Export Notification: None Listed

CERCLA/SARA Section 302 EHS: None Listed
Section 304 EHS RQ None Listed
CLCRA RQ None Listed
Section 313 None Listed
RCRA CODE None Listed
CAA 1129(r) TQ None Listed

State Regulations NA

California Proposition 65: This product contains the following chemicals known to the State of California to cause cancer or reproductive toxicity:

None Listed

Canada Regulatory Information

	WHMIS Status	Hazard class(s)
Water	NA	
Potassium Silicate	Disclosure (1%)	E

16. OTHER INFORMATION

Revision Information

Revision Date: 6/16/2010
Supersedes Revision Dated: 6/15/2007
Revision Number: 4.000
Revision Summary: Revised format

Key: NE = Not Established, NA = Not Applicable

Prepared by: R. Forsythe

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Ergon Armor does not assume responsibility for any results obtained by persons over whose methods Ergon Armor has no control. It is the user's responsibility to determine the suitability of Ergon's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any of Ergon Armor products. In light of the foregoing, Ergon Armor specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Ergon Armor's products. Ergon Armor further disclaims any liability for consequential or incidental damages of any kind, including lost profits.