

AWSM Industries, LLC

MATERIAL SAFETY DATA SHEET

Potassium Fluoride Solution

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Potassium Fluoride, 30 %, 40 % Solution

OTHER/GENERIC NAMES: Potassium Fluoride

PRODUCT USE: Contact supplier

DISTRIBUTOR: AWSM Industries, LLC
12 Route 17 North, Suite 309
Paramus, NJ 07652

TELEPHONE: (201) 845-4666
(Monday-Friday, 8:30 AM – 5:00 PM)

CHEMTREC PHONE: 1800-424-9300
(24 Hours/Day, 7 Days/Week)

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT NAME:</u>	<u>FORMULA</u>	<u>CAS NO.</u>	<u>% WT</u>
Potassium Fluoride	KF	7789-23-3	30-40
Water	H ₂ O	7732-18-5	Balance

OSHA Hazard Communication Standard: *This product is considered hazardous under the OSHA Hazard Communication Standard*

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Poisonous if swallowed. Harmful if inhaled. Decomposition by strong acids evolves HF gas, which is irritant/corrosive.

Route of Entry: Inhalation: Yes Skin: Yes Ingestion: Yes

Potential Effects of exposure:

- Chronic exposure to the product can cause calcification of the ligaments and tendons.
- Overexposure can cause reduced calcium levels.
- Potassium ion may lower blood pressure; coma death may result.

Inhalation:

- Severe irritation to mucous membranes and possible pulmonary edema.
- Sore throat, coughing, shortness of breath, nosebleed and sinus problems.

Eyes: Contact with solid or solution may cause severe eye irritation or burns.

Skin contact:

- Contact with solid or solution may cause severe skin irritation or burns.
- May be absorbed through the skin and produce signs of fluoridosis such as weight loss, brittleness of bones, anemia, weakness and stiffness of joints, mottling of tooth enamel and crippling skeletal abnormalities including osteosclerosis.

Ingestion: Severe irritation of mucous membranes, nausea, salivation, vomiting, abdominal pain, diarrhea, convulsions, hemorrhage and gastritis.

Carcinogenicity: See section 11.3

AWSM Industries, LLC

MATERIAL SAFETY DATA SHEET

Potassium Fluoride Solution

SECTION 4: FIRST AID MEASURES

GENERAL RECOMMENDATIONS:

INHALATION:

- Remove to fresh air.
- Administer oxygen or cardiopulmonary resuscitation if necessary.
- Seek medical attention immediately.

EYES:

- Flush eyes immediately with running water for 15 minutes, while keeping the eyelids wide open.
- Seek medical attention immediately.

SKIN:

- Remove contaminated shoes, socks and clothing, under the shower if necessary; wash the affected skin with running water for 15 minutes.
- Seek medical attention immediately.

INGESTION: Get medical attention immediately.

IF THE SUBJECT IS COMPLETELY CONSCIOUS: Administer a slurry of magnesia (1 tablespoon) in a glass of water, or preferably, give a solution of calcium gluconate OR soluble calcium in any form (milk, calcium lactate solution). Treatment should be administered by a qualified medical professional.

IF THE SUBJECT IS UNCONSCIOUS:

- NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.
- Administer classical resuscitation measures.

MEDICAL TREATMENT/NOTES TO PHYSICIAN: See Section 4.1

SECTION 5: FIRE-FIGHTING MEASURES

FLASH POINT:

Not applicable.

AUTO_IGNITION TEMPERATURE:

Not applicable.

FLAMMABILITY LIMITS:

Not applicable.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

None.

EXTINGUISHING METHODS

COMMON:

Use media required for surrounding materials.

INAPPROPRIATE EXTINGUISHING MEANS:

No restriction.

FIRE FIGHTING PROCEDURES

SPECIFIC HAZARDS:

- Fire may produce irritating or poisonous gases.
- Decomposition by strong acids evolves HF gas.

PROTECTIVE MEASURES IN CASE OF INTERVENTION:

- Intervention only by capable personnel who are trained and aware of the hazards of the product.
- Wear appropriate full protective apparel and NIOSH_approved respirators.
- Evacuate all non_essential personnel.
- In all cases wear self-contained breathing apparatus.
- After intervention, take a shower, remove clothing carefully, clean and check

AWSM Industries, LLC

MATERIAL SAFETY DATA SHEET

Potassium Fluoride Solution

the equipment.

OTHER PRECAUTIONS:

- Avoid inhalation of mist.
- If safe to do so, remove the exposed containers.
- After the fire, proceed rapidly to clean the surfaces exposed to the fumes in order to limit the damage to the equipment.
- As for any fire, ventilate and clean the rooms before reentry.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PRECAUTIONS:

- Follow the protective measures given in section 8.
- Keep away materials and products which are incompatible with the product (see section 10).

CLEANUP METHODS:

- Mop into clean plastic container, keeping away from electrical equipment/wiring.
- Flush area with water.
- For disposal methods, refer to section 13.

PRECAUTIONS FOR PROTECTION OF THE ENVIRONMENT:

- Immediately notify the appropriate authorities in case of significant discharge.
- Do not discharge into the environment (sewers, rivers, soils, etc.).

SECTION 7: HANDLING AND STORAGE

HANDLING:

- Avoid freezing.
- Keep container closed and protect from physical damage.
- Handle as moderately toxic.
- No smoking, eating or drinking while handling material.
- Use only equipment and materials which are compatible with the product.
- Keep away from heat and reactive products (see section 10).

STORAGE:

- Store in cool, dry and well ventilated place.
- Avoid freezing.
- Keep away from heat and reactive materials (see section 10).
- Keep container closed.

SPECIFIC USES: See Section 1.2.

OTHER PRECAUTIONS:

- Follow the protective measures given in section 8.
- Warn people about the dangers of the product.

PACKAGING: Corrosive to steel, metals, glass and porcelain; consult supplier.

AWSM Industries, LLC

MATERIAL SAFETY DATA SHEET

Potassium Fluoride Solution

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMIT VALUES:

AUTHORIZED LIMIT VALUES	TLV® ACGIH®_USA (2002)	OSHA PEL
Fluorides	02.5 mg/m3 (as F)	2.5 mg/m3 (as F)

ACGIH® and TLV® are registered trademarks of the American Conference of Governmental Industrial Hygienists.

EXPOSURE CONTROLS:

- Maintain employee exposures to levels below the applicable exposure limits.
- Follow the protective measures given in section 7.

OCCUPATIONAL EXPOSURE CONTROLS:

VENTILATION:

- Provide local ventilation suitable for the product decomposition risk (see section 10).
- Provide local ventilation.

RESPIRATORY PROTECTION: Use only NIOSH_approved respirators for dust/mists.

HAND PROTECTION: Protective gloves _ rubber.

EYE PROTECTION: Chemical safety goggles and face shield.

SKIN PROTECTION: Wear approved protective clothing.

OTHER PRECAUTIONS:

- Do not smoke, eat, or drink in working area.
- Provide shower and eyewash stations.
- Consult the industrial hygienist or the safety manager for the selection of personal protective equipment suitable for the working conditions.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Liquid.

COLOR: Clear.

ODOR: Odorless.

IMPORTANT HEALTH, SAFETY AND ENVIRONMENTAL INFORMATION:

pH: 7 _ 10 (freshly prepared).

CHANGE OF STATE:

Melting point: Not applicable.

Boiling point: 212°F (100°C).

Decomposition Temperature: No data.

FLASH POINT: Not applicable.

FLAMMABILITY: Not applicable.

(SOLID, GAS)

EXPLOSIVE PROPERTIES: No data.

OXIDIZING PROPERTIES: Not Applicable.

VAPOR PRESSURE: < 20.

AWSM Industries, LLC

MATERIAL SAFETY DATA SHEET

Potassium Fluoride Solution

RELATIVE DENSITY:

Specific gravity (H₂O=1): 1.15 _ 1.25.

SOLUBILITY:

Water: Complete.

Fat: No data.

PARTITION COEFFICIENT: P (n₂-octanol/water): No data.

VISCOSITY: 5 _ 15 cp.

VAPOR DENSITY (AIR=1): No data.

EVAPORATION RATE: No data.

SECTION 10: STABILITY AND REACTIVITY

CONDITIONS TO AVOID:

- Contact with strong oxidizers.
- Excess heat, sparks or open flame.

MATERIALS AND SUBSTANCES TO AVOID:

- Strong mineral acids.
- Strong bases.
- Oxidizers.
- Glass.
- Porcelain.
- Platinum.
- Water reactive material.

HAZARDOUS DECOMPOSITION PRODUCTS:

- Hydrofluoric acid (if mixed with acid).
- Thermal decomposition products may include toxic and hazardous fumes of potassium oxide and fluoride.

HAZARDOUS POLYMERIZATION: Will not occur.

OTHER INFORMATION: Decomposition by strong acids evolves HF gas.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

INHALATION: No data.

ORAL: LD₅₀, 245 mg/kg, rat.

DERMAL: No data.

IRRITATION: No data.

SENSITIZATION: No data.

COMMENTS:

- Toxic effect linked with corrosive properties.
- Chronic exposure may entail dental or skeletal fluorosis.
- The carcinogenic effect found in animals is not demonstrated in humans.
- Risk of toxic effect on reproduction.

CHRONIC TOXICITY:

- Oral: fluoride reduced calcium levels.
- Potassium ion may lower blood pressure; coma death may result.
- Chronic ingestion may cause fluorosis.

CARCINOGENIC DESIGNATION: None.

AWSM Industries, LLC

MATERIAL SAFETY DATA SHEET

Potassium Fluoride Solution

SECTION 12: ECOLOGICAL INFORMATION

ACUTE ECOTOXICITY: No data.
 CHRONIC ECOTOXICITY: No data.
 MOBILITY: No data.
 DEGRADATION
 ABIOTIC: No data.
 BIOTIC: No data.
 POTENTIAL FOR BIOACCUMULATION: No data.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE TREATMENT:

- Consult current federal, state and local regulations regarding the proper disposal of this material.
- Emptied drums may contain product residue; follow label warnings, even after drum is emptied.

PACKAGING TREATMENT:

Consult current federal, state and local regulations regarding the proper disposal of emptied containers.

RCRA HAZARDOUS WASTE: Not listed.

SECTION 14: TRANSPORT INFORMATION

MODE	DOT	IMDG	IATA
UN NUMBER	3422	3422	3422
CLASS (SUBSIDIARY)	6.1	Toxic	6.1
Proper Shipping Name	Potassium Fluoride Solution	Potassium Fluoride Solution	Potassium Fluoride Solution
Hazard label (Subsidiary)	6.1(toxic)	Toxic	Toxic
Placard [Subsidiary]			
Packing Group	III	III	III
Reportable Quantity	None	None	None
MFAG			
Emergency Info	ERG: 154	EmS: F_A, S_A	ERG Code: 6L

AWSM Industries, LLC

MATERIAL SAFETY DATA SHEET

Potassium Fluoride Solution

SECTION 15: REGULATORY INFORMATION

National Regulations (US)

TSCA Inventory 8(b): Yes.

SARA Title III Sec. 302/303 Extremely Hazardous Substances (40 CFR 355): No.

SARA Title III Sec. 311/312 (40 CFR 370):

Hazard Category: Immediate and chronic health hazard.

Threshold planning quantity: 10,000 lbs.

SARA Title III Sec. 313 Toxic Chemical Emissions Reporting (40 CFR 372): No.

CERCLA Hazardous Substance (40 CFR Part 302)

Listed: No.

Unlisted Substance: No.

STATE COMPONENT LISTING:

State	Comment
CA	Airborne Contaminants & Emissions Inventory
CA	Hazardous Substance List
CT	Hazardous Materials Survey
IL	Toxic Substances Disclosure to Employees Act
IN	Occupational Health & Safety Standards _ Air
KY	Occupational Health & Safety Standards _ Air
MN	Hazardous Substance List
NJ	Right to Know Substances List
NJ	Toxic Catastrophe Prevention Act
NC	Exposure limits for Air Contaminants
PA	Right to Know
RI	Right to Know

National Regulations (Canada)

Canadian DSL Registration: DSL.

WHMIS Classification: D1B _ Very Toxic Material.
D2B _ Toxic Material.

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*.

Labeling according to Directive 1999/45/EC.

Category	ID	Phrase
Symbols	T	Toxic.
	C	Corrosive.
Phrases R	25	Toxic if swallowed.
	34	Causes burns.
Phrases S	22	Do not breathe dust.
	26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	37	Wear suitable gloves.
	45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

AWSM Industries, LLC

MATERIAL SAFETY DATA SHEET

Potassium Fluoride Solution

SECTION 16: OTHER INFORMATION

CURRENT ISSUE DATE: JUNE 17, 2005
PREVIOUS ISSUE DATE: JANUARY 1, 2005

CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:
Revised to fit standard 16 section format.

RATINGS:

NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)

Health = 3 Flammability = 0 Instability = 0 Special = None

HMIS (HAZARDOUS MATERIAL INFORMATION SYSTEM)

Health = 3 Fire = 0 Reactivity = 0 PPE = Supplied by User; dependent on local conditions

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Date Created	Created By	Replaces	Area	Product/ Process	Special
7/27/05	JD	01/01/05	MSDS	Potassium Fluoride Solution	SVY