



Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment						
	<table border="1" style="margin: auto;"> <tr><td style="background-color: #00FFFF;">Health Hazard</td><td style="text-align: center;">2</td></tr> <tr><td style="background-color: #FFCCCC;">Fire Hazard</td><td style="text-align: center;">0</td></tr> <tr><td style="background-color: #FFFF00;">Reactivity</td><td style="text-align: center;">0</td></tr> </table>	Health Hazard	2	Fire Hazard	0	Reactivity	0	
Health Hazard	2							
Fire Hazard	0							
Reactivity	0							
		See Section 15.						

Section 1. Chemical Product and Company Identification		Page Number: 1
Common Name/Trade Name	Aluminum fluoride trihydrate	Catalog Number(s). A1090 CAS# 15098-87-0; 7784-18-1 (anhydrous CAS no.)
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	RTECS BD0725000 TSCA TSCA 8(b) inventory: No products were found.
Commercial Name(s)	Not available.	CI# Not applicable.
Synonym	Aluminium fluorure [French]; Aluminum trifluoride, trihydrate	IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000
Chemical Name	Not available.	
Chemical Family	Metal salt. (Salt.)	
Chemical Formula	AIF ₃ .3H ₂ O	
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	

Section 2. Composition and Information on Ingredients					
			<i>Exposure Limits</i>		
Name	CAS #	TWA (mg/m ³)	STEL (mg/m ³)	CEIL (mg/m ³)	% by Weight
1) Aluminum fluoride trihydrate	15098-87-0	2.5			100
Toxicological Data on Ingredients					
Aluminum fluoride anydrous (CAS no. 7784-18-1): ORAL (LD50): Acute: 1800 mg/kg [Rat]. 103 mg/kg [Mouse].					

Section 3. Hazards Identification	
Potential Acute Health Effects	Hazardous in case of eye contact (irritant), of inhalation (lung irritant). Slightly hazardous in case of skin contact (irritant), of ingestion.
Potential Chronic Health Effects	CARCINOGENIC EFFECTS: 3 (Not classifiable for human.) by IARC. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to lungs, upper respiratory tract, skin, eyes, bones. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.
Skin Contact	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.
Serious Skin Contact	Not available.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Serious Inhalation	Not available.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	When heated to decomposition it emits highly toxic fumes of hydrogen fluoride.
Special Remarks on Explosion Hazards	Violently impact-sensitive when in contact with sodium and potassium.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill	Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions	Do not ingest. Do not breathe dust. Avoid contact with eyes. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as acids, moisture.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	TWA: 2.5 (mg/m ³) (as F) from OSHA (PEL) [United States] TWA: 2.5 (mg/m ³) (as F) from ACGIH (TLV) [United States] TWA: 2.5 (mg/m ³) (as F) from NIOSH [United States] TWA: 2.5 (mg/m ³) (as F) [Canada] TWA: 2.5 STEL: 7.5 (mg/m ³)(as F) [United Kingdom (UK)] Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid. (Solid crystalline powder. Powdered solid.)	Odor	Not available.
Molecular Weight	138.02 g/mole	Taste	Not available.
pH (1% soln/water)	Not available.	Color	White.
Boiling Point	Not available.		
Melting Point	Sublimation temperature: 1260°C (2300°F)		
Critical Temperature	Not available.		
Specific Gravity	2.88 (Water = 1)		
Vapor Pressure	Not applicable.		
Vapor Density	Not available.		
Volatility	Not available.		
Odor Threshold	Not available.		
Water/Oil Dist. Coeff.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	See solubility in water.		
Solubility	Partially soluble in cold water, hot water.		

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Incompatible materials, dust generation.
Incompatibility with various substances	Reactive with acids.

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Corrosivity	Slightly corrosive in presence of glass.
Special Remarks on Reactivity	In the presence of vapor, and temperature in excess of 300 deg. C., Hydrogen Fluoride gas may be generated.
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Inhalation. Ingestion.
Toxicity to Animals	Aluminum Fluoride anhydrous (CAS no. 7784-18-1) Acute oral toxicity (LD50): 103 mg/kg [Mouse]. 1800 mg/kg [Rat]
Chronic Effects on Humans	CARCINOGENIC EFFECTS: 3 (Not classifiable for human.) by IARC. May cause damage to the following organs: lungs, upper respiratory tract, skin, eyes, bones.
Other Toxic Effects on Humans	Hazardous in case of inhalation (lung irritant). Slightly hazardous in case of skin contact (irritant), of ingestion.
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: May cause skin irritation. Eyes: Causes eye irritation. Inhalation: Causes respiratory tract irritation, and possible nose bleeding. May cause vomiting. Ingestion: May be harmful if swallowed. May cause nausea, vomiting, abdominal pain, diarrhea, salivation, dehydration and thirst, muscle weakness, tremors, convulsions, progressive central nervous system depression (lethargy, coma), respiratory failure, hypocalcemia, cardiac arrhythmias, shock (characterized by pallor, weak and thready pulse, shallow unlabored breathing, weak heart sounds, wet and cold skin, anuria, dilated pupils. Chronic Potential Health Effects: Ingestion: Repeated or prolonged ingestion can result in fluoride deposition in the bones and cartilage. This can cause chronic fluoride poisoning (fluorosis), which affects the teeth, bones, and joints since fluorides are absorbed into the bones. Fluorosis is characterized by weight loss, weakness anemia, mottled tooth enamel, hypocalcemia, increase in bone density (osteosclerosis), brittle bones, and stiffness of the low back, and stiff joints. May cause calcification of the paraspinal and other ligamentous structures.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are less toxic than the product itself.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
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Section 14. Transport Information

DOT Classification Not a DOT controlled material (United States).

Identification Not applicable.

Special Provisions for Transport Not applicable.

DOT (Pictograms)



Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations Minnesota: Aluminum fluoride trihydrate (listed as fluorides, fluorides (inorganic), aluminum soluble salts)
New Jersey: Aluminum fluoride trihydrate (listed as fluorides)
California Director's List of Hazardous Substances: Aluminum fluoride trihydrate (listed as soluble aluminum salts)

California Proposition 65 Warnings California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.
California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

Other Regulations OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
EINECS: This product is not on the European Inventory of Existing Commercial Chemical Substances.
Canada: Not listed on Canadian Domestic Substance List (DSL) or Canadian Non- Domestic Substance List (NDSL).
China: Listed on National Inventory.
Japan: Not listed on National Inventory (ENCS).
Korea: Not listed on National Inventory (KECI).
Philippines: Listed on National Inventory (PICCS).
Australia: Not listed on AICS.

Other Classifications **WHMIS (Canada)** CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC) R36/37- Irritating to eyes and respiratory system. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S39- Wear eye/face protection.

HMIS (U.S.A.)

Health Hazard	2
Fire Hazard	0
Reactivity	0
Personal Protection	E

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

Health  Flammability
Reactivity
Specific hazard

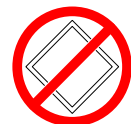
WHMIS (Canada) (Pictograms)



DSCL (Europe) (Pictograms)



TDG (Canada) (Pictograms)



ADR (Europe)
(Pictograms)

Protective Equipment



Gloves.



Lab coat.



Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.



Splash goggles.

Section 16. Other Information

MSDS Code A3595

References
 -The Sigma-Aldrich Library of Chemical Safety Data, Edition II.
 -Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987.

Other Special Considerations
 Not available.

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Verified by Sonia Owen.

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CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.