

Osmose MATERIAL SAFETY DATA SHEET

MATERIAL SAFETY DATA SHEET: **FLURODS**

SECTION I

MSDS NUMBER:	18-UTL
MSDS CODE:	UTL
SYNONYMS:	N/A
MANUFACTURED BY:	Osmose Utilities Services, Inc.
DIVISION:	N/A
EPA REGISTRATION NUMBER:	75341-6
EMERGENCY PHONE:	CHEMTREC: 1(800) 424-9300
OTHER CALLS:	(716) 882-5905
ADDRESS:	980 Ellicott Street, Buffalo, NY 14209
MSDS PREPARED BY:	Teri Muchow
DATE PREPARED:	February 6, 2003
DATE LAST REVISED:	March 16, 2006

ADDITIONAL INFORMATION

CHEMTREC'S EMERGENCY TELEPHONE NUMBER IS TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

TRADE NAME: FLURODS	CAS	OSHA PEL	ACGIH TLV	OTHER	%
INGREDIENT NAME					
Sodium Fluoride	7681-49-4	2.5 mg/M ³ as F	2.5 mg/M ³ as F	RQ = 1,000 pounds	92.6%

*Fluoride, as F, CAS # 16894-48-8, is an ACGIH TLV substance with a ACGIH of 2.5 mg/M³, and an OSHA PEL of 2.5 mg/M³.

SECTION III - CHEMICAL CHARACTERISTICS

BOILING POINT	MELTING POINT	FREEZING POINT	SPECIFIC GRAVITY (H ₂ O = 1)	PERCENT VOLATILE BY VOLUME	THEORETICAL VOC CONTENT (PERCENT OF WEIGHT)
3099°F	1819°F	N/A	N/A	N/A	N/A
WEIGHT PER GALLON	pH:	VAPOR PRESSURE	VAPOR DENSITY	DENSITY	EVAPORATION RATE BASIS (N-BUAC) = 1
N/A	5.91 at 23°C	1 mm at 1077°C	N/A	2.31 gm/cc	N/A
SOLUBILITY IN WATER: 4% at 77°C			REACTIVITY IN WATER: N/A		
APPEARANCE AND ODOR: Solid white rod, no odor					

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	METHOD	FLAMMABLE LIMITS IN AIR (%)	AUTOIGNITION TEMPERATURE		
N/A	N/A	N/A	N/A		
NFPA CODES	HEALTH	3	HMIS CODES:	HEALTH	3
	FLAMMABILITY	0		FLAMMABILITY	0
	REACTIVITY	0		REACTIVITY	0
	OTHER	N/A		PROTECTION	B
EXTINGUISHER MEDIA: Choose extinguishing media suitable for surrounding materials.					

SPECIAL FIRE FIGHTING PROCEDURES: Use water to cool containers exposed to fire. Use normal fire fighting equipment.
UNUSUAL FIRE AND EXPLOSION HAZARDS: None

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SECTION V - REACTIVITY DATA

IS THIS CHEMICAL STABLE UNDER NORMAL CONDITIONS OF HANDLING/STORAGE (Y/N)? Y
CONDITIONS TO AVOID (REGARDING STABILITY): N/A
INCOMPATIBILITY (MATERIALS TO AVOID): Avoid contact with strong acids.
HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen Fluoride, toxic fumes of F⁻ and Na₂O
HAZARDOUS POLYMERIZATION POSSIBLE (Y/N)? N
CONDITIONS TO AVOID (REGARDING POLYMERIZATION): N/A

SECTION VI - HEALTH HAZARDS

ROUTES OF ENTRY: Inhalation, ingestion, skin or eye.
SIGNS AND SYMPTOMS OF ACUTE OVEREXPOSURE: If powder is **INHALED**, irritation to lungs, respiratory tract and nose. Nosebleeds may occur. Muscular weakness, difficulty breathing, thirst, weak pulse and loss of consciousness. Kidney damage and central nervous system depression may occur. If absorbed through **SKIN**, muscular weakness, difficulty breathing, thirst, weak pulse, and loss of consciousness. Kidney damage and central nervous system depression may occur. **EYE** contact may result in irritation with corneal epithelial damage and necrosis of the conjunctiva. The data from animal testing indicates a corrosive effect to unwashed eyes. It is non irritating if eyes are rinsed immediately after exposure. If **INGESTED**, nausea, vomiting, with or without blood, and diarrhea due to formation of hydrofluoric acid which is highly irritating. Muscular weakness, central nervous system depression, visual disturbances, convulsions and kidney damage may occur.
CHRONIC OVEREXPOSURE: If powder is **INHALED**, fluorosis may occur which is characterized by increased density of bone. Fluoride may also deposit in tendons, ligaments and muscles. Such deposition may result in crippling effects. Nausea, vomiting, loss of appetite, diarrhea, or constipation can occur. Mottling of teeth. If exposure by **SKIN**, the effects would be the same as if inhaled. **EYE** contact is not subject to chronic overexposure. If **INGESTED**, the same effects describe for inhalation and skin exposure.
CHEMICAL LISTED AS A CARCINOGEN OR POTENTIAL CARCINOGEN?:

- NATIONAL TOXICOLOGY PROGRAM (Y/N): N
- IARC MONOGRAPHS (Y/N): N
- OSHA (Y/N): N

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None known.

TOXICITY DATA

Oral LD50 - rat	105 mg/Kg	Oral LD50 - northern bobwhite	387 mg/kg
Dermal LD50 - rat	> 2000 mg/Kg	Dietary LC50 - mallards	> 5620 ppm
Inhalation LC50 - rat	1 mg/L	Dietary LC50 - northern bobwhite	> 5620 ppm
Primary Skin Irritation - rabbits	Slightly irritating (PDII of 0.9)	96 hour LC50 - bluegill sunfish	830 mg/L
Primary Eye Irritation	Severely irritating to non washed eye; practically nonirritating to washed eye.	96 hour LC50 - rainbow trout	320 mg/L
Skin Sensitization	Not a contact sensitizer	48 hour EC50 - daphnids	780 mg/L



EMERGENCY AND FIRST AID PROCEDURES



1 EMERGENCY PHONE NUMBER OF MANUFACTURER: CHEMTREC 1(800) 424-9300

1. INHALATION: If a person experiences nausea, headache or dizziness, person should stop work immediately and move to fresh air until these symptoms disappear. If breathing is difficult, administer oxygen, keep the person warm and at rest. Call a physician. In the event that an individual inhales enough vapor to lose consciousness, person should be moved to fresh air at once and physician should be called immediately. If breathing has stopped, artificial respiration should be given immediately. In all cases, ensure adequate ventilation and provide respiratory protection before the person returns to work.
2. EYE CONTACT: Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Call a physician at once.
3. SKIN CONTACT: Immediately flush with water for at least 15 minutes. Call a physician. If clothing comes in contact with the product, the clothing should be removed immediately and should be laundered before re-use.
4. INGESTION: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting on or give anything by mouth to an unconscious person.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

USDOT SHIPPING DESCRIPTION: Sodium fluoride, solid, 6.1, UN1690, PGIII, Limited Quantity

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Do not store at temperatures above 125°F (52°C).

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OTHER PRECAUTIONS: Do not store in glass. Avoid storage and transportation with strong acids.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Pick up rods and place back into container. If a rod breaks, sweep up. Use broken rod if possible. If rod is crushed, sweep up dust and dispose of in sanitary landfill.

WASTE DISPOSAL METHODS: If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D. As a nonhazardous solid waste it should be disposed of in accordance with local, State and Federal regulations by disposal in a secure chemical landfill. Care must be taken to prevent environmental contamination from the use of this material. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, State and Federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION: Not need under normal use of product.

VENTILATION REQUIREMENTS: None required.

PROTECTIVE GLOVES: Rubber gloves

EYE PROTECTION: Safety glasses or chemical goggles.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: As necessary to avoid skin contact. Eyewash must be provided in the immediate work area.

WORK/HYGIENIC PRACTICES: Use good work practices. Wash hands before eating, drinking or using tobacco products. Remove clothes if contaminated. Launder clothes separately.

SECTION IX - REGULATORY INFORMATION:

SARA/TITLE III ;SECTION 312 - HAZARD CATEGORIES:

Immediate (Acute) Health: Yes Reactive Hazard: No
Delayed (Chronic) Health: Yes Sudden Release of Pressure: No
Fire Hazard: No

SECTION 302:

N/A

SECTION 304:

Sodium fluoride has a reportable quantity of 1000 pounds.

SECTION 311 & 312:

Report if inventory equals or exceeds 10,000 pounds on any given day.

TOXIC SUBSTANCES CONTROL ACT: The components of this product are listed on the Toxic Substances Control Act inventory.

N/A = Not Applicable

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