



# MATERIAL SAFETY DATA SHEET

according to the Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 08/02/2012

Version 1.1

## SECTION 1. Identification

### Product identifier

Product number 109869  
Product name Fluoride standard 1000 mg F (KF in H<sub>2</sub>O) Titrisol®

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

Identified uses Reagent for analysis

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

Company EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821, United States of America | SDS Phone Support: +1-978-715-1335 | General Inquiries: +1-978-751-4321 | Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)  
e-mail: mm\_sds@merckgroup.com

Emergency telephone 800-424-9300 CHEMTREC (USA)  
+1-703-527-3887 CHEMTREC (International)  
24 Hours/day; 7 Days/week

## SECTION 2. Hazards identification

### GHS-Labeling

#### *Hazard Statements*

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

### OSHA Hazards

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Other hazards

None known.

## SECTION 3. Composition/information on ingredients

Chemical nature Aqueous solution

### Hazardous ingredients

#### *Chemical Name ( Concentration)*

CAS-No.

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*Potassium fluoride (>= 5 % - < 10 %)*

7789-23-3

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## SECTION 4. First aid measures

### Description of first-aid measures

#### *Inhalation*

After inhalation: fresh air.

#### *Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing.

#### *Eye contact*

After eye contact: rinse out with plenty of water.

#### *Ingestion*

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Never give anything by mouth to an unconscious person.

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

The following applies to soluble inorganic fluorides in general: may cause irritations to burns in contact with eyes, skin, mucous membranes. Systemic effect: drop in blood calcium level, agitation, spasms, cardiovascular disorders, CNS disorders.

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

No information available.

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## SECTION 5. Fire-fighting measures

### Extinguishing media

#### *Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapors.

Fire may cause evolution of:

Hydrogen fluoride

### Advice for firefighters

#### *Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### *Further information*

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapors, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### Environmental precautions

Do not empty into drains.

### Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

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## SECTION 7. Handling and storage

### Precautions for safe handling

Observe label precautions.

### Conditions for safe storage, including any incompatibilities

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage temperature: no restrictions.

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## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### Ingredients

| Basis                               | Value                             | Threshold limits      | Remarks                 |
|-------------------------------------|-----------------------------------|-----------------------|-------------------------|
| <i>Potassium fluoride 7789-23-3</i> |                                   |                       |                         |
| ACGIH                               | Time Weighted Average (TWA):      | 2.5 mg/m <sup>3</sup> | Expressed as: as F      |
| NIOSH/GUIDE                         | Recommended exposure limit (REL): | 2.5 mg/m <sup>3</sup> | Expressed as: as F      |
| OSHA_TRANS                          | PEL:                              | 2.5 mg/m <sup>3</sup> | Expressed as: as F      |
| Z1A                                 | Time Weighted Average (TWA):      | 2.5 mg/m <sup>3</sup> | Expressed as: as F      |
| OSHA/Z2                             | Time Weighted Average (TWA):      | 2.5 mg/m <sup>3</sup> | Form of exposure: Dust. |

### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

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*Hygiene measures*

Change contaminated clothing. Application of skin- protective barrier cream recommended.  
Wash hands after working with substance.

*Eye/face protection*

Safety glasses

*Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Recommended:

full contact:

|                     |                |
|---------------------|----------------|
| Glove material:     | Nitrile rubber |
| Glove thickness:    | 0.11 mm        |
| Break through time: | > 480 min      |

splash contact:

|                     |                |
|---------------------|----------------|
| Glove material:     | Nitrile rubber |
| Glove thickness:    | 0.11 mm        |
| Break through time: | > 480 min      |

*Other protective equipment:*

protective clothing

*Respiratory protection*

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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**SECTION 9. Physical and chemical properties**

|                  |                              |
|------------------|------------------------------|
| Physical state   | liquid                       |
| Color            | colorless                    |
| Odor             | odorless                     |
| Odor Threshold   | not applicable               |
| pH               | ca. 8.4<br>at 68 °F ( 20 °C) |
| Melting point    | No information available.    |
| Boiling point    | No information available.    |
| Flash point      | No information available.    |
| Evaporation rate | No information available.    |

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|  |   |
|--|---|
| Flammability (solid, gas)                  | No information available.                   |
| Lower explosion limit                      | No information available.                   |
| Upper explosion limit                      | No information available.                   |
| Vapor pressure                             | No information available.                   |
| Relative vapor density                     | No information available.                   |
| Relative density                           | 1.00 g/cm <sup>3</sup><br>at 68 °F ( 20 °C) |
| Water solubility                           | at 68 °F ( 20 °C)<br>soluble                |
| Partition coefficient: n-<br>octanol/water | No information available.                   |
| Autoignition temperature                   | No information available.                   |
| Decomposition temperature                  | No information available.                   |
| Viscosity, dynamic                         | No information available.                   |

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## SECTION 10. Stability and reactivity

### Reactivity

See below

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### Possibility of hazardous reactions

Generates dangerous gases or fumes in contact with:

Strong oxidizing agents, acids

Release of:

Hydrogen fluoride

The generally known reaction partners of water.

### Conditions to avoid

Heating.

### Incompatible materials

no information available

### Hazardous decomposition products

in the event of fire: See section 5.

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**SECTION 11. Toxicological information**

**Information on toxicological effects**

*Likely route of exposure*

Eye contact, Skin contact

*Acute oral toxicity*

Acute toxicity estimate: > 2,000 mg/kg

Calculation method

*Acute inhalation toxicity*

Acute toxicity estimate: > 20 mg/l

Calculation method

*Acute dermal toxicity*

absorption

Acute toxicity estimate : > 2,000 mg/kg

Calculation method

*Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

*Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

*Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

**Carcinogenicity**

|       |  |
|-------|--|
| IARC  | No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| OSHA  | No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.             |
| NTP   | No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.                 |
| ACGIH | No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.            |

**Further information**

Quantitative data on the toxicity of this product are not available.

Other information

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The following applies to soluble inorganic fluorides in general: may cause irritations to burns in contact with eyes, skin, mucous membranes. Systemic effect: drop in blood calcium level, agitation, spasms, cardiovascular disorders, CNS disorders.

Further data:

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### Ecotoxicity

No information available.

### Persistence and degradability

No information available.

### Bioaccumulative potential

No information available.

### Mobility in soil

No information available.

### Other adverse effects

*Additional ecological information*

Biological effects: Hazard for drinking water supplies.

Further information on ecology

Discharge into the environment must be avoided.

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## SECTION 13. Disposal considerations

The information presented only applies to the material 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.

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## SECTION 14. Transport information

### Land transport (DOT)

|                           |   |
|---------------------------|---|
| UN number                 | UN 3287   |
| Proper shipping name      | TOXIC LIQUID, INORGANIC, N.O.S. ( POTASSIUM FLUORIDE) |
| Class                     | 6.1   |
| Packing group             | III   |
| Environmentally hazardous | --  |

### Air transport (IATA)

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**UN number** UN 3287  
**Proper shipping name** TOXIC LIQUID, INORGANIC, N.O.S. ( POTASSIUM FLUORIDE SOLUTION)  
**Class** 6.1  
**Packing group** III  
**Environmentally hazardous** --  
**Special precautions for user** no

**Sea transport (IMDG)**

**UN number** UN 3287  
**Proper shipping name** TOXIC LIQUID, INORGANIC, N.O.S. ( POTASSIUM FLUORIDE SOLUTION)  
**Class** 6.1  
**Packing group** III  
**Environmentally hazardous** --  
**Special precautions for user** yes  
**EmS** F-A S-A

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**SECTION 15. Regulatory information**

**United States of America**

**OSHA Hazards**

Toxic by inhalation.  
Toxic by ingestion  
Toxic by skin absorption

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

**SARA 311/312 Hazards**

Acute Health Hazard

**US State Regulations**

**Massachusetts Right To Know**

Remarks  
No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know**



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## *Ingredients*

water

Potassium fluoride

## **New Jersey Right To Know**

### *Ingredients*

water

Potassium fluoride

## **California Prop 65 Components**

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

## **Notification status**

TSCA:

On TSCA Inventory

DSL:

All components of this product are on the Canadian DSL list.

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## **SECTION 16. Other information**

### **Training advice**

Provide adequate information, instruction and training for operators.

### **Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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