1. Product and company identification

Product identifier

Trade name: Chloride 21 FS R2

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

General use: Reagent for in-vitro diagnostic use

Details of the supplier of the safety data sheet

Company name: DiaSys Diagnostic Systems GmbH
Street/POB-No.: Alte Strasse 9
Postal Code, city: 65558 Holzheim
WWW: http://www.diasys.de
E-mail: mail@diasys.de
Telephone: +49 (0) 6432-9146-0
Telefax: +49 (0) 6432-9146-32

Dept. responsible for information:
Corporate headquarters, Telephone: +49 (0) 6432-9146-0, Email: mail@diasys.de

Emergency phone number

Infraserv, Telephone: +49 (0) 69-305-6418

2. Hazards identification

Emergency overview

Appearance: Physical state at 68 °F and 101.3 kPa: liquid
Color: clear, colorless
Odor: odorless

Classification: This material is classified as not hazardous.

Regulatory status

This material is not considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and SIMDUT in Canada.

Hazards not otherwise classified

see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterization: Aqueous solution

Relevant ingredients:

CAS No.	Designation	Content	Classification
CAS 7789-23-3	Potassium fluoride	< 3 %	Acute Toxicity - oral - Category 3. Acute Toxicity - dermal - Category 3. Acute Toxicity - inhalative - Category 3.

4. First aid measures

General information: In all cases of doubt, or when symptoms persist, seek medical advice.

In case of inhalation: Provide fresh air. Seek medical treatment in case of troubles.

Following skin contact: Remove residues with soap and water. Change contaminated clothing. In case of skin reactions, consult a physician.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. In case of eye irritation consult an ophthalmologist.

After swallowing: Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Immediately get medical attention.

Most important symptoms/effects, acute and delayed

No data available

Information to physician

If swallowed or in the event of vomiting, risk of entering the lungs.
Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:
not combustible

Auto-ignition temperature: No data available

Suitable extinguishing media:
Use extinguishing material as appropriate for the surrounding area.

Specific hazards arising from the chemical

Not combustible.
Fires in the immediate vicinity may cause the development of dangerous vapors.
In case of fire may be liberated: hydrogen fluoride.

Protective equipment and precautions for firefighters:
Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information: Do not allow fire water to penetrate into surface or ground water.
Use a water fog to control vapors.

6. Accidental release measures

Personal precautions: Avoid contact with the substance. Provide adequate ventilation. Wear appropriate protective equipment.

Environmental precautions:
Do not allow to penetrate into soil, waterbodies or drains.

Methods for clean-up: Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Final cleaning.

7. Handling and storage

Handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed. Do not breathe vapor or spray. Avoid contact with skin and eyes. Wash hands thoroughly after handling.

Storage

Requirements for storerooms and containers:

Keep container in a well-ventilated place. Keep containers tightly closed and at a temperature between 35.6 °F and 46.4 °F.

Hints on joint storage: Do not store together with acids or strong oxidizing agents.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
7789-23-3	Potassium fluoride	USA: ACGIH: TWA USA: NIOSH: TWA USA: OSHA: TWA	2.5 mg/m³ (Fluorides, calculated as F) 2.5 mg/m³ (calculated as F) 2.5 mg/m³ (calculated as F)

Biological limit values:

CAS No.	Designation	Type	Limit value	Parameter	Sampling
7789-23-3	Potassium fluoride	USA: ACGIH-BEI, blood	3 mg/L	Fluorides	end of exposure or end of shift
		USA: ACGIH-BEI, urine	2 mg/L	Fluorides	Prior to shift

Engineering controls

When vapors form: Withdraw by suction.
See also information in chapter 7, section storage.

Personal protection equipment (PPE)

Eye/face protection: Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010

Skin protection: Wear suitable protective clothing.

Protective gloves according to OSHA Standard - 29 CFR: 1910.138
Glove material: nitrile rubber - Layer thickness: 0.11 mm.
Breakthrough time: >480 min.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection: Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded.

General hygiene considerations:

Avoid contact with skin and eyes. Do not breathe vapor or spray. Change contaminated clothing. Wash hands thoroughly after handling.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance: Physical state at 68 °F and 101.3 kPa: liquid
Color: clear, colorless

Odor: odorless

Odor threshold: No data available

pH value:	at 73.4 °F: 7.3
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	approx. 212 °F
Flash point/flash point range:	not combustible
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Density:	at 68 °F: 1.021 g/mL
Water solubility:	completely miscible
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Thermal decomposition:	No data available
Additional information:	No data available

10. Stability and reactivity

Reactivity: No data available

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions
Reacts with strong oxidizing agents, acids. Release of: hydrogen fluoride.

Conditions to avoid: Protect against heat /sun rays.

Incompatible materials: Acids, strong oxidizing agents

Hazardous decomposition products:
No decomposition when used properly.

Thermal decomposition: No data available

11. Toxicological information

Toxicological tests

Toxicological effects:

Acute toxicity (oral): Based on available data, the classification criteria are not met. May be harmful if swallowed.

Acute toxicity (dermal): Based on available data, the classification criteria are not met. May be harmful in contact with skin.

Acute toxicity (inhalative): Based on available data, the classification criteria are not met. May be harmful if inhaled.

Skin corrosion/irritation: Lack of data.

Serious eye damage/irritation: Lack of data.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Lack of data.

Germ cell mutagenicity/Genotoxicity: Lack of data.

Carcinogenicity: Lack of data.

Reproductive toxicity: Lack of data.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Lack of data.

Specific target organ toxicity (repeated exposure): Lack of data.

Aspiration hazard: Lack of data.

Other information:

Information about potassium fluoride
LD50 Rat, oral: 148.5 mg/kg
After resorption: unconsciousness, cardiac arrhythmias, apnea, shock.
At long term exposure bone marrow damage.
The following applies to soluble inorganic fluoride in general: irritant up to corrosive.
Systemic effects: decrease of the blood-calcium-concentration, spasms, agitation, cardiovascular disorders, CNS disorders.
Mutagenicity mammalian cell test: positive

12. Ecological information

Ecotoxicity

Aquatic toxicity:

Information about potassium fluoride
Fish toxicity: LC50 > 2.3 mg/L
Protozoa Acute toxicity: EC5 Entosiphon sulcatum: 101 mg/L

Mobility in soil

No data available

Persistence and degradability

Further details:

Methods for the determination of biodegradability are not applicable to inorganic substances.

Additional ecological information

General information:

Do not allow to penetrate into soil, waterbodies or drains.

13. Disposal considerations

Product

Recommendation: Special waste. Dispose of waste according to applicable legislation.

Contaminated packaging

Recommendation: Dispose of waste according to applicable legislation.
Non-contaminated packages may be recycled.

14. Transport information

USA: Department of Transportation (DOT)

Proper shipping name: No dangerous good in sense of this transport regulation.

Sea transport (IMDG)

Proper shipping name: Not restricted
Marine pollutant: no

Air transport (IATA)

Proper shipping name: Not restricted

Further information

No dangerous good in sense of these transport regulations.

15. Regulatory information

National regulations - U.S. Federal Regulations

Potassium fluoride: TSCA Inventory: listed
TSCA HPVC: not listed

National regulations - Great Britain

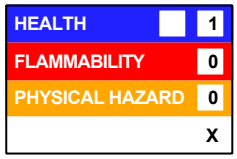
Hazchem-Code: -

16. Other information

Hazard rating systems:

NFPA Hazard Rating:
Health: 1 (Slight)
Fire: 0 (Minimal)
Reactivity: 0 (Minimal)

HMIS Version III Rating:
Health: 1 (Slight)
Flammability: 0 (Minimal)
Physical Hazard: 0 (Minimal)
Personal Protection: X = Consult your supervisor



Reason of change: General revision
Date of first version: 9/16/2011

Department issuing data sheet

Contact person: see section 1: Dept. responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.