

SECTION 1: Identification

1.1. Product identifiers

Product Code	: KumigF01
Substance name	: <i>N</i> -Chloromethyl- <i>N'</i> -fluorotriethylenediammonium bis(tetrafluoroborate)
Synonym	: 1-Chloromethyl-4-fluoro-1,4-diazoniabicyclo[2.2.2]octane bis(tetrafluoroborate), Selectfluor
Trademark	: Fluora
CAS No	: 140681-55-6
Formula	: C ₇ H ₁₄ B ₂ ClF ₉ N ₂
Reach No.	: Exempted from registration

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

Identified Uses	: Laboratory chemicals Manufacture of substances Scientific research and development
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1.3. Details of the supplier of the safety data sheet

Kumidas SA
Avenue Louise 279,1050,Brussels, Belgium
T: +32(0) 2 699 82 36 F: +32(0) 2 699 82 36 40
E: info@kumidas.com W: www.kumidas.com

1.4. Emergency telephone number

Emergency Phone# : +32(0)484 58 71 75

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Self-heating substances (Category 2), H252
Acute toxicity, Oral (Category 4), H302
Serious eye damage (Category 1), H318
Skin sensitisation (Category 1), H317
Chronic aquatic toxicity (Category 3), H412
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. Label elements

Labeling according to Regulation (EC) No 1272/2008

Hazard pictograms



Signal word : Danger

Hazard statements : H252 – Self-heating in large quantities; may catch fire.
H302 – Harmful if swallowed.
H317 – May cause an allergic skin reaction.
H318 – Causes serious eye damage.
H412 – Harmful to aquatic life with long lasting effects.

Precautionary statements : P235+P410 – Keep cool. Protect from sunlight.
P272 – Avoid release to the environment.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 – Immediately call a POISON CENTER/doctor.

Supplemental Hazard Statements (EU) : None

2.3. Other hazards

Strong hydrogen fluoride- releaser
Reacts violently with water.

N-Chloromethyl-N'-fluorotriethylenediammonium bis(tetrafluoroborate)

Safety Data Sheet

According to Regulation (EC) No. 1907/2006

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type	: Mono-constituent
Formula	: C ₇ H ₁₄ B ₂ ClF ₉ N ₂
Molecular weight	: 354.26 g/mol
Hazardous ingredients according to Regulation (EC) No 1272/2008	

Component	Product identifier	Concentration	Classification
N-Chloromethyl-N'-fluorotriethylenediammonium bis(tetrafluoroborate) (Main constituent)	(CAS No.) 140681-55-6	≤ 100%	Self-heat. 2, H252 Acute Tox. 4, H302 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412

Full text of H-statements: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice

Hydrofluoric (HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24 hours depending on the concentration of HF. After decontamination with water, further damage can occur due to penetration/absorption of the fluoride ion. Treatment should be directed toward binding the fluoride ion as well as the effects of exposure. Skin exposures can be treated with a 2.5% calcium gluconate gel repeated until burning ceases. More serious skin exposures may require subcutaneous calcium gluconate except for digital areas unless the physician is experienced in this technique, due to the potential for tissue injury from increased pressure. Absorption can readily occur through the subungual areas and should be considered when undergoing decontamination. Prevention of absorption of the fluoride ion in cases of ingestion can be obtained by giving milk, chewable calcium carbonate tablets or Milk of Magnesia to conscious victims. Conditions such as hypocalcemia, hypomagnesemia and cardiac arrhythmias should be monitored for, since they can occur after exposure. Consult a physician. Show this safety data sheet to the doctor in attendance.

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If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician. First treatment with calcium gluconate paste.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

N-Chloromethyl-N'-fluorotriethylenediammonium bis(tetrafluoroborate)

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5.2. Special hazards arising from the substance or mixture

No data available.

5.3. Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4. Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

6.4. Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Keep away from sources of ignition- No smoking.

For precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature 2-8 °C.

Handle and store under inert gas.

7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2. Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

N-Chloromethyl-N'-fluorotriethylenediammonium bis(tetrafluoroborate)

Safety Data Sheet

According to Regulation (EC) No. 1907/2006

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body protection

Complete suit protecting against chemicals, Flame retardant protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environment exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	: powder
Color	: White to Slightly pale yellow
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: 210°C
Freezing point	: No data available
Initial boiling point and boiling range	: No data available
Flash point	: No data available
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Molecular Weight	: 354.26 g/mol
Solubility	: Water insoluble
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other safety information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

The product is stable at normal handling and recommended storage conditions.

10.3. Possibility of hazardous reactions

No additional information available

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10.4. Conditions to avoid

Avoid moisture.

10.5. Incompatible materials

Strong oxidizing agents..

10.6. Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides(NOx),Hydrogen chloride gas, Hydrogen fluoride, Borane/boron oxides.

Other decomposition products – Gaseous hydrogen fluoride(HF)

In the event of fire: see section 5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	LD ₅₀ Oral-Rat-500 mg/kg LD ₅₀ Dermal-Rat-> 2,000 mg/kg
Skin corrosion/irritation	No data available
Serious eye damage/irritation	Severe eye irritation
Respiratory or skin sensitization	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity	No data available
Specific target organ toxicity(single exposure)	No data available
Specific target organ toxicity (repeated exposure)	No data available
Aspiration hazard	No data available
Additional information	RTECS: Not available Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia. burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish	LC ₅₀ - Oncorhynchus mykiss(rainbow trout)-100.0 mg/l-24.0 h
Toxicity to daphnia and other aquatic invertebrates	EC ₅₀ -Daphnia magna(Water flea)-25 mg/l-48 h

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6. Other adverse effects

Harmful to aquatic life.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

Contaminated packaging

Dispose of as unused product.

N-Chloromethyl-N'-fluorotriethylenediammonium bis(tetrafluoroborate)

Safety Data Sheet

According to Regulation (EC) No. 1907/2006

SECTION 14: Transport information

14.1. UN number

ADR/RID: 3088

IMDG: 3088

IATA: 3088

14.2. UN proper shipping name

ADR/RID: SELF-HEATING SOLID, ORGANIC, N.O.S. (1,4-Diazoniabicyclo[2.2.2]octane, 1-(chloromethyl)-4-fluoro-, tetrafluoroborate(1-) (1:2))

IMDG: SELF-HEATING SOLID, ORGANIC, N.O.S. (1,4-Diazoniabicyclo[2.2.2]octane, 1-(chloromethyl)-4-fluoro-, tetrafluoroborate(1-) (1:2))

IATA: Self-heating solid, organic, n.o.s. (1,4-Diazoniabicyclo[2.2.2]octane, 1-(chloromethyl)-4-fluoro-, tetrafluoroborate(1-) (1:2))

14.3. Transport hazard class (es)

ADR/RID: 4.2

IMDG: 4.2

IATA: 4.2

14.4. Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5. Environmental hazards

ADR/RID: no

IMDG: Marine pollutant: no

IATA: no

14.6. Special precautions for user

No data available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors:

Neither banned nor restricted

Restrictions on the marketing and use of certain dangerous substances and preparations:

Neither banned nor restricted

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals:

Neither banned nor restricted

REACH-Candidate list of Substances of Very High Concern for Authorisation(Article 59) :

This product does not contain substances of very High concern(Regulation(EC) No 1907/2006(REACH), Article 57).

15.2. Chemical safety assessment

For this product, a chemical safety assessment was not carried out.

SECTION 16: Other information

16.1. Full text of H-statements referred to under sections 2 and 3.

H252	Self-heating in large quantities; may catch fire.
H302	Harmful if swallowed
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H412	Harmful to aquatic life with long lasting effects.

16.2. Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It, therefore, does not represent any guarantee of the properties of the product. Kumidas shall not be held liable or any damage resulting from handling or from contact with the above product.