



## Safety data sheet according to 1907/2006/EC, Article 31

Printing date 18.02.2013

Version number 1

Revision: 18.02.2013

### \* 1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** KNiFC-PAN
- **Article number:**  
NC-B50-M, NC-B100-M, NC-B200-M, MP-SUP-NC-M, SA-NC-B01-M, NC-B50-I, NC-B100-I, NC-B200-I, MP-SUP-NC-I, SA-NC-B01-I
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** SU24 Scientific research and development
- **Application of the substance / the preparation** Selective resin for Cesium separation
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Czech Technical University in Prague  
Centre for Radiochemistry and Radiation Chemistry  
Brehova 7  
115 19 Prague 1  
Czech Republic
  
- TrisKem International SAS  
Parc de Lormandière Bât. C  
Rue Maryse Bastié Campus de Ker Lann  
35170 Bruz  
FRANCE  
contact@triskem.fr
  
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:** During normal opening times: +33 2 99 05 00 09

### 2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
.....  
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**  
.....  
R32-52/53: Contact with acids liberates very toxic gas. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **Information concerning particular hazards for human and environment:**  
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.  
Heightened danger of slipping when the product is spilled on the floor.
- **Classification system:**  
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
- **Label elements**
- **Labelling according to EU guidelines:**  
The product has been marked in accordance with EU Directives / respective national laws.
- **Risk phrases:**  
32 Contact with acids liberates very toxic gas.  
52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **Safety phrases:**  
22 Do not breathe dust.  
24/25 Avoid contact with skin and eyes.  
60 This material and its container must be disposed of as hazardous waste.  
61 Avoid release to the environment. Refer to special instructions/safety data sheets.

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- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.
- **Dangerous components:**

KNiFCN	R32-52/53	50-100%
	Aquatic Chronic 3, H412	
- **Additional information:** For the wording of the listed risk phrases refer to section 16.

### 4 First aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:**  
Mouth respiratory protective device.  
Wear self-contained respiratory protective device.  
Wear fully protective suit.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Particular danger of slipping on leaked/spilled product.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb liquid components with liquid-binding material.  
Pick up mechanically.
- **Reference to other sections**  
See Section 7 for information on safe handling.

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See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Prevent formation of dust.  
Provide suction extractors if dust is formed.
- **Information about fire - and explosion protection:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Do not store together with acids.
- **Further information about storage conditions:**  
Protect from exposure to the light.  
Do not let the resin dry
- **Specific end use(s)**  
Advised temperature of use: 20-25°C  
Resin wetted with 4% minimum (w:w) with deionised water

### 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Wash hands before breaks and at the end of work.  
Do not eat, drink, smoke or sniff while working.
- **Respiratory protection:** Suitable respiratory protective device recommended.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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**· Eye protection:**

Safety glasses

## 9 Physical and chemical properties

**· Information on basic physical and chemical properties****· General Information****· Appearance:**

<b>Form:</b>	Powder
<b>Colour:</b>	Brown
<b>· Odour:</b>	Odourless
<b>· Odour threshold:</b>	Not determined.
<b>· pH-value at 20°C:</b>	7

**· Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.

**· Flash point:** Not applicable.**· Flammability (solid, gaseous):** Not determined.**· Ignition temperature:****Decomposition temperature:** Not determined.**· Self-igniting:** Product is not selfigniting.**· Danger of explosion:** Product does not present an explosion hazard.**· Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

**· Vapour pressure:** Not applicable.**· Density at 20°C:** 0.2 g/cm<sup>3</sup>**· Relative density** Not determined.**· Vapour density** Not applicable.**· Evaporation rate** Not applicable.**· Solubility in / Miscibility with water:**

Insoluble.

**· Particle size**  
M: 100-600 µm  
I: 300 - 800 µm**· Segregation coefficient (n-octanol/water):** Not determined.**· Viscosity:****Dynamic:** Not applicable.**Kinematic:** Not applicable.**Organic solvents:** 0.0 %**Solids content:** 100.0 %**· Other information** No further relevant information available.

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### 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions**  
Reacts with strong oxidizing agents.  
Reacts with flammable substances.  
Toxic fumes may be released if heated above the decomposition point.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**  
Carbon monoxide and carbon dioxide  
Nitrogen oxides (NO<sub>x</sub>)

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values relevant for classification:**  
**KNiFCN**  
Oral LD50 3613 mg/kg (rat)
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:**  
**KNiFCN**  
EC50 32 mg/l (daphnia)
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Harmful to aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- **UN-Number**
- **ADR, ADN, IMDG, IATA** Void
- **UN proper shipping name** -
- **ADR, ADN, IMDG, IATA** Void
- **Transport hazard class(es)**
- **ADR, ADN, IMDG, IATA**
- **Class** Void
- **Packing group** -
- **ADR, IMDG, IATA** Void
- **Environmental hazards:**
- **Marine pollutant:** No
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **UN "Model Regulation":** -

### 15 Regulatory information

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**  
H412 Harmful to aquatic life with long lasting effects.  
R32 Contact with acids liberates very toxic gas.  
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **Contact:** Aude Bombard
- **Abbreviations and acronyms:**  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent
- **\* Data compared to the previous version altered.**