

Material Safety Data Sheet According to 91/155 EEC

Reviewed on 11.02.2005

* 1 Identification of substance:

- **Product details:** Reagent for water analysis
- **Product name:** Al-1 TP Aluminum Set (Vario Aluminium ECR F20)
- **Catalog number:** 251 400 **Model:** Al-1 TP
- **Supplier:**
 WTW Wissenschaftlich-Technische Werkstätten GmbH
 Dr.-Karl-Slevogt-Straße 1
 D-82362 Weilheim Tel.: +49(0)881 183-0 Internet: <http://www.WTW.com>
 Fax: +49(0)881 183-420 Tel.: +49(0)881 183-100 E-Mail: Info@WTW.com
- **Emergency information:**
 Poison Center Berlin, Germany
 Tel.: +49(0)30 19240

* 2 Composition/Data on components:

- **Description:** Mixture of the substances listed below with harmless additions.

· **Dangerous components:**

CAS: 70-49-5	mercaptosuccinic acid	✘ Xn; R 22-36/37/38	5-10%
EINECS: 200-736-4			

- **Additional information** For the wording of the listed risk phrases refer to section 16.

3 Hazards identification

- **Hazard designation:** void
- **Information pertaining to particular dangers for man and environment**
 The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system**
 The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

* 4 First aid measures

- **General information** No special measures required.
- **After inhalation** Supply fresh air; consult doctor in case of symptoms.
- **After skin contact**
 Rinse with warm water.
 The product is not skin irritating.
- **After eye contact**
 Rinse opened eye for several minutes under running water.
 Call a doctor immediately.
- **After swallowing**
 Drink copious amounts of water, induce vomiting.
 In case of persistent symptoms consult doctor.
- **The following symptoms may occur:**
 After swallowing of large amounts:

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Product name: Al-1 TP Aluminum Set (Vario Aluminium ECR F20)

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sickness

vomiting

· **Danger** Danger of disturbed cardiac rhythm.

* 5 Fire fighting measures

- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
- **Special hazards caused by the material, its products of combustion or resulting gases:**
Formation of toxic gases is possible during heating or in case of fire.
Hydrogen chloride (HCl)
- **Protective equipment:** Wear self-contained breathing apparatus.
- **Additional information**
Ambient fire may liberate hazardous vapours.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Collect contaminated fire fighting water separately. It must not enter drains.

* 6 Accidental release measures

- **Person-related safety precautions:**
Wear protective equipment. Keep unprotected persons away.
Avoid causing dust.
- **Measures for environmental protection:** Do not allow product to reach sewage system or water bodies.
- **Measures for cleaning/collecting:**
Collect mechanically.
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Additional information:** No dangerous materials are released.

* 7 Handling and storage

- **Handling**
- **Information for safe handling:** No special measures required.
- **Information about protection against explosions and fires:**
Protect from heat.
The product is not flammable
- **Storage**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Store under dry conditions.
Protect from humidity and keep away from water.
Protect from the effects of light.
- **Storage class** Not required.

* 8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components 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 that were valid during the compilation were used as basis.
- **Personal protective equipment**
- **General protective and hygienic measures**
The usual precautionary measures should be adhered to general rules for handling chemicals.

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Product name: Al-1 TP Aluminum Set (Vario Aluminium ECR F20)

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- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
 - **Protection of hands:** Preventive skin protection by use of skin-protecting agents is recommended.
 - **Material of gloves**
nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
 - **Penetration time of glove material**
Value for the permeation: Level ≥ 6 (480 min)
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
 - **Eye protection:** Safety glasses
 - **Body protection:** Protective work clothing.
-

* 9 Physical and chemical properties:

· Form:	Powder
· Colour:	Orange
· Odour:	Like rotten eggs (mercaptans)
· Melting point/Melting range:	Not determined
· Boiling point/Boiling range:	1413°C
· Flash point:	Not applicable
· Self-inflammability:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive.
· Density	Not determined
· Solubility in / Miscibility with Water:	Soluble
· pH-value (22 g/l) at 20°C:	2.8
· Solvent content:	
Organic solvents:	0.0 %
· Solids content:	100.0 %

* 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.
 - **Dangerous reactions** No dangerous reactions known
 - **Dangerous products of decomposition:** No dangerous decomposition products known
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* 11 Toxicological information

- **Acute toxicity:** Quantitative data on the toxicity of the preparation are not available.

LD/LC50 values that are relevant for classification:		
7447-40-7 potassium chloride		
Oral	LD50	2600 mg/kg (rat)
7783-20-2 ammonium sulphate		
Oral	LD50	2840 mg/kg (rat)
70-49-5 mercaptosuccinic acid		
Oral	LD50	800 mg/kg (rat)
	LD50 IVN	> 1000 mg/kg (rabbit)

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Product name: AI-1 TP Aluminum Set (Vario Aluminium ECR F20)

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50-81-7 ascorbic acid

Oral	LD50	11900 mg/kg (rat)
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- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** No irritant effect.

- **Sensitization:** No sensitizing effect known.

- **Additional toxicological information:**

The product is not subject to classification according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version.

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

* 12 Ecological information:

- **Information about elimination (persistence and degradability):**

- **Other information:** Quantitative data on the ecological effect of this product are not available.

- **Behaviour in environmental systems:**

7783-20-2 ammonium sulphate

log P(o/w)	- 5.1 (.)
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70-49-5 mercaptosuccinic acid

log P(o/w)	-0.88 (.)
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50-81-7 ascorbic acid

log P(o/w)	-2.15 (.)
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- **Ecotoxicological effects:**

- **Aquatic toxicity:**

50-81-7 ascorbic acid

LC50	33000 (Merck) mg/l/48h (Leuciscus idus)
	1020 mg/l/96h (Onchorhynchus mykiss)

- **Remark:**

Toxic for fish:

sulphates > 7 g/l

NH₄⁺ > 0.3 mg/l

- **General notes:**

Water danger class 3 (German Regulation) (Self-assessment): extremely hazardous for water.

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into soil.

* 13 Disposal considerations

- **Product:**

- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- **European waste catalogue**

16 05 06	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals
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- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

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Product name: Al-1 TP Aluminum Set (Vario Aluminium ECR F20)

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14 Transport information

· **ADR/GGVSE:**

· **IMDG/GGVSee:**
· **EMS Number:**

· **ICAO/IATA:**

· **Transport/Additional information:** Not dangerous according to the above specifications.

*15 Regulatory information

· **Designation according to EC guidelines:**

Observe the normal safety regulations when handling chemicals

The product is not subject to identification regulations under EC Directives and the Ordinance on Hazardous Materials (GefStoffV).

· **Special designation of certain preparations:**

Safety data sheet available for professional user on request.

16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant R-phrases**

22 Harmful if swallowed.

36/37/38 Irritating to eyes, respiratory system and skin.

· **Department issuing data specification sheet:** Department TSS, Dr. Manfred Kaul

· **Data compared to the previous version altered.**

— GB —

Material Safety Data Sheet According to 91/155 EEC

Reviewed on 23.02.2005

* 1 Identification of substance:

· **Product details:** Reagent for water analysis

· **Product name:** Vario Hexamine F20

· **Catalog number:** 251 400 **Model:** AI-1 TP

· **Supplier:**

WTW Wissenschaftlich-Technische Werkstätten GmbH

Dr.-Karl-Slevogt-Straße 1

D-82362 Weilheim

Fax: +49(0)881 183-420

Tel.: +49(0)881 183-0

Tel.: +49(0)881 183-100

Internet: <http://www.WTW.com>

E-Mail: Info@WTW.com

· **Emergency information:**

Poison Center Berlin, Germany

Tel.: +49(0)30 19240

* 2 Composition/Data on components:

· **Description:** Mixture of the substances listed below with harmless additions.

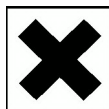
· **Dangerous components:**

CAS: 100-97-0	methenamine	Xn, F; R 11-42/43	90-100%
EINECS: 202-905-8			
EC Number: 612-101-00-2			

· **Additional information** For the wording of the listed risk phrases refer to section 16.

* 3 Hazards identification

· **Hazard designation:**



Xn Harmful
F Highly flammable

· **Information pertaining to particular dangers for man 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.

R 11 Highly flammable.

R 42/43 May cause sensitisation by inhalation and skin contact.

· **Classification system**

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

* 4 First aid measures

· **After inhalation**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness bring patient into stable side position for transport.

· **After skin contact**

Seek medical treatment.

Instantly rinse with water.

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Product name: Vario Hexamine F20

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- **After eye contact**
Rinse opened eye for several minutes under running water.
Call a doctor immediately.
- **After swallowing**
Rinse out mouth and then drink plenty of water.
Induce vomiting.
- **The following symptoms may occur:**
after inhalation:
breathing difficulty
coughing
after swallowing:
sickness
vomiting
cramps
mucous membrane irritation
gastric or intestinal trouble
- **Danger**
risk of airways sensitization
risk of skin sensitization

* 5 Fire fighting measures

- **Suitable extinguishing agents**
Use fire fighting measures that suit the environment.
Foam
Alcohol-resistant foam
Fire-extinguishing powder
Carbon dioxide
- **Special hazards caused by the material, its products of combustion or resulting gases:**
Can form explosive gas-air mixtures.
Formation of toxic gases is possible during heating or in case of fire.
Nitrogen oxides (NO_x)
Hydrogen cyanide (HCN)
nitrous gases
ammonia
- **Protective equipment:** Wear self-contained breathing apparatus.
- **Additional information**
Cool endangered containers with water spray jet.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Collect contaminated fire fighting water separately. It must not enter drains.

* 6 Accidental release measures

- **Person-related safety precautions:**
Wear protective equipment. Keep unprotected persons away.
Avoid causing dust.
Use breathing protection against the effects of fumes/dust/aerosol.
- **Measures for environmental protection:**
Do not allow product to reach sewage system or water bodies.
Damp down gases/fumes/haze with water spray jet.
- **Measures for cleaning/collecting:**
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.

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Product name: Vario Hexamine F20

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* 7 Handling and storage

- **Handling**
- **Information for safe handling:**
 - Work only in fume cupboard.
 - Use only in well ventilated areas.
- **Information about protection against explosions and fires:**
 - Keep ignition sources away - Do not smoke.
 - Protect from heat.
 - Protect against electrostatic charges.
- **Storage**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:**
 - Keep container tightly sealed.
 - Store in cool, dry conditions in well sealed containers.
 - Store under dry conditions.
 - Protect from humidity and keep away from water.
 - Protect from the effects of light.
- **Storage class** Not required.

* 8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components 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 that were valid during the compilation were used as basis.
- **Personal protective equipment**
- **General protective and hygienic measures**
 - Keep away from foodstuffs, beverages and food.
 - Take off immediately all contaminated clothing
 - Wash hands during breaks and at the end of the work.
 - Do not eat, drink or smoke while working.
- **Breathing equipment:**
 - In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.
- **Recommended filter device for short term use:** Filter P2
- **Protection of hands:**
 - Only use chemical-protective gloves with CE-labelling of category III.
 - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 - After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
 - Nitrile
 - 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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
 - Recommended thickness of the material: ≥ 0.11 mm
- **Penetration time of glove material**
 - The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
 - Value for the permeation: Level ≥ 6 (480 min)
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing.

— GB —

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Material Safety Data Sheet

According to 91/155 EEC

Reviewed on 23.02.2005

Product name: Vario Hexamine F20

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* 9 Physical and chemical properties:

· Form:	Powder
· Colour:	White
· Odour:	Amine-like
· Melting point/Melting range:	280, Subl.°C
· Boiling point/Boiling range:	Not determined
· Flash point:	> 100°C
· Inflammability (solid, gaseous)	Highly flammable.
· Ignition temperature:	390°C
· Self-inflammability:	Product is not selfigniting.
· Critical values for explosion:	
Lower:	20 g/m ³
· Density at 20°C	1.34 g/cm ³
· Settled apparent density at 20°C	600 kg/m ³
· Solubility in / Miscibility with Water at 20°C:	895 g/l
· pH-value (20 g/l) at 20°C:	8.5
· Solvent content:	
Organic solvents:	0.0 %
· Solids content:	100.0 %

* 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.
- **Materials to be avoided:**
 - oxidizing agents
 - acids
 - peroxides
 - Halogenated hydrocarbons
 - iodide
- **Dangerous reactions**
 - with nitric acid, acetic anhydride
 - > Explosive
 - Reacts with metals forming hydrogen
 - Strong exothermic reaction with acids
 - Reacts with halogenated compounds
 - Corrodes aluminium
- **Dangerous products of decomposition:**
 - Hydrogen cyanide (prussic acid)
 - formaldehyde
 - see chapter 5

* 11 Toxicological information

- **Acute toxicity:** Quantitative data on the toxicity of the preparation are not available.

· LD/LC50 values that are relevant for classification:		
100-97-0 methenamine		
Oral	LD50	569 mg/kg (mouse)
	LD50	9200 mg/kg (rat)

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Material Safety Data Sheet

According to 91/155 EEC

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Product name: Vario Hexamine F20

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- **Primary irritant effect:**
- **on the eye:** Irritant effect.
- **Sensitization:**
Sensitization possible by inhalation.
Sensitization possible by skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
Harmful

* 12 Ecological information:

- **Information about elimination (persistence and degradability):**
- **Other information:** Quantitative data on the ecological effect of this product are not available.

· Behaviour in environmental systems:	
100-97-0 methenamine	
log P(o/w)	-2.84 (.)
· Ecotoxicological effects:	
· Acquatic toxicity:	
100-97-0 methenamine	
EC50	36 mg/l/48h (Daphnia magna)
LC50	49.8 mg/l/96h (Pimephales promelas)
Toxicity EC10	5 g/l (fish)
Toxicity ECo	10 g/l/48h (Daphnia magna)
· Remark:	
Toxic for fish:	
Magnesium compounds: 100 - 400 mg/l	
· 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 bodies or sewage system.	
Must not reach sewage water or drainage ditch undiluted or unneutralized.	

* 13 Disposal considerations

- **Product:**
- **Recommendation** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· European waste catalogue	
16 05 06	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals
· Uncleaned packagings:	
· Recommendation: Disposal must be made according to official regulations.	
· Recommended cleaning agent: Water, if necessary with cleaning agent.	

* 14 Transport information

· ADR/GGVSE:	UN 3316 CHEMIE-TESTSATZ, 9, II
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Product name: Vario Hexamine F20

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<ul style="list-style-type: none"> · IMDG/GGVSee: · EMS-number 	<p>UN 3316 CHEMICAL KIT, 9, II F-A S-P</p>
<ul style="list-style-type: none"> · Designation of goods: 	<p>HEXAMETHYLENETETRAMINE</p>
<ul style="list-style-type: none"> · ICAO/IATA: 	<p>CHEMICAL KIT, 9, UN 3316, II</p>
<ul style="list-style-type: none"> · Correct technical name: 	<p>HEXAMETHYLENETETRAMINE</p>

* 15 Regulatory information

- **Designation according to EC guidelines:**
The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)
- **Code letter and hazard designation of product:**
Xn Harmful
F Highly flammable
- **Hazard-determining components of labelling:**
methenamine
- **Risk phrases:**
11 Highly flammable.
42/43 May cause sensitisation by inhalation and skin contact.
- **Safety phrases:**
16 Keep away from sources of ignition - No smoking.
22 Do not breathe dust.
24 Avoid contact with skin.
37 Wear suitable gloves.
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
60 This material and its container must be disposed of as hazardous waste.

16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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Material Safety Data Sheet

According to 91/155 EEC

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Product name: Vario Hexamine F20

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· **Relevant R-phrases**

- 11 Highly flammable.
- 42/43 May cause sensitisation by inhalation and skin contact.

· **Department issuing data specification sheet:** Department TSS, Dr. Manfred Kaul

· **Data compared to the previous version altered.**

— GB —

Material Safety Data Sheet According to 91/155 EEC

Reviewed on 16.02.2005


* 1 Identification of substance:

- **Product details:** Reagent for water analysis
- **Product name:** ECR-Masking RGT
- **Catalog number:** 251 400 **Model:** AI-1 TP
- **Supplier:**
 WTW Wissenschaftlich-Technische Werkstätten GmbH
 Dr.-Karl-Slevogt-Straße 1
 D-82362 Weilheim Tel.: +49(0)881 183-0 Internet: <http://www.WTW.com>
 Fax: +49(0)881 183-420 Tel.: +49(0)881 183-100 E-Mail: Info@WTW.com
- **Emergency information:**
 Poison Center Berlin, Germany
 Tel.: +49(0)30 19240

* 2 Composition/Data on components:

- **Description:** Mixture of the substances listed below with harmless additions.

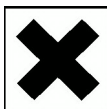
- **Dangerous components:**

CAS: 12125-01-8	ammonium fluoride		T; R 23/24/25	10-20%
EINECS: 235-185-9				
EC Number: 009-006-00-8				

- **Additional information** For the wording of the listed risk phrases refer to section 16.

* 3 Hazards identification

- **Hazard designation:**



Xn Harmful

- **Information pertaining to particular dangers for man 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.

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

- **Classification system**

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

* 4 First aid measures

- **General information**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- **After inhalation**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness bring patient into stable side position for transport.

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Material Safety Data Sheet

According to 91/155 EEC

Reviewed on 16.02.2005

Product name: ECR-Masking RGT

(Contd. of page 1)

- **After skin contact**
 - Instantly rinse with water.
 - Instantly wash with polyethylene glycol 400.
 - Seek immediate medical advice.
 - **After eye contact**
 - Rinse opened eye for several minutes under running water.
 - Call a doctor immediately.
 - **After swallowing**
 - Drink copious amounts of water and provide fresh air. Instantly call for doctor.
 - Induce vomiting.
 - **The following symptoms may occur:**
 - after absorption:
 - cramps
 - breathing difficulty
 - unconsciousness
 - **Danger**
 - Danger of disturbed cardiac rhythm.
 - Danger of pulmonary oedema.
-

* 5 Fire fighting measures

- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
 - **Special hazards caused by the material, its products of combustion or resulting gases:**
 - Formation of toxic gases is possible during heating or in case of fire.
 - ammonia
 - Nitrogen oxides (NOx)
 - **Protective equipment:**
 - Wear self-contained breathing apparatus.
 - Wear full protective suit.
 - **Additional information**
 - Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
 - Collect contaminated fire fighting water separately. It must not enter drains.
-

* 6 Accidental release measures

- **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.
 - **Measures for environmental protection:** Do not allow product to reach sewage system or water bodies.
 - **Measures for cleaning/collecting:**
 - Neutralize with lime sand, lime or sodium bicarbonate.
 - Collect mechanically.
 - Ensure adequate ventilation.
 - Dispose of contaminated material as waste according to item 13.
-

* 7 Handling and storage

- **Handling**
 - **Information for safe handling:**
 - Prevent formation of aerosols.
 - Keep containers tightly sealed.
 - **Information about protection against explosions and fires:**
 - Protect from heat.
 - The product is not flammable
 - **Storage**
 - **Requirements to be met by storerooms and containers:**
 - Store in cool location.
-

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Material Safety Data Sheet

According to 91/155 EEC

Reviewed on 16.02.2005

Product name: ECR-Masking RGT

(Contd. of page 2)

Unsuitable material for container: glass

· **Information about storage in one common storage facility:**

Do not store together with acids.
Store away from oxidizing agents.

· **Further information about storage conditions:**

Keep container tightly sealed.
Store under dry conditions.
Protect from humidity and keep away from water.
Protect from the effects of light.

· **Storage class** Not required.

* 8 Exposure controls and personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Components with limit values that require monitoring at the workplace:**

12125-01-8 ammonium fluoride

OES (Great Britain)	Long-term value: 2.5 mg/m ³ as F
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· **Additional information:** The lists that were valid during the compilation were used as basis.

· **Personal protective equipment**

· **General protective and hygienic measures**

Keep away from foodstuffs, beverages and food.
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.
Do not eat, drink or smoke while working.

· **Breathing equipment:**

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

· **Recommended filter device for short term use:** Filter P2

· **Protection of hands:**

Only use chemical-protective gloves with CE-labelling of category III.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
After use of gloves apply skin-cleaning agents and skin cosmetics.

· **Material of gloves**

Nitrile
nitrile rubber, NBR

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Recommended thickness of the material: ≥ 0.11 mm

· **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.
Value for the permeation: Level ≥ 6 (480 min)

· **Eye protection:** Safety glasses

· **Body protection:** Protective work clothing.

* 9 Physical and chemical properties:

· Form:	Fluid
· Colour:	Colourless
· Odour:	Odourless

· **Melting point/Melting range:** Not determined

· **Boiling point/Boiling range:** 100°C

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Material Safety Data Sheet

According to 91/155 EEC

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Product name: ECR-Masking RGT

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· Flash point:	Not applicable
· Self-inflammability:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive.
· Density at 20°C	1.108 g/cm ³
· Solubility in / Miscibility with Water:	Fully miscible
· pH-value at 20°C:	5.1
· Solvent content:	
Organic solvents:	0.0 %
Water:	< 70 %
· Solids content:	< 40 %

* 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.
 - **Materials to be avoided:**
 - acids
 - halogen compounds
 - **Dangerous reactions**
 - Contact with strong acids releases hydrogen fluoride
 - Attacks materials containing glass and silicate
 - **Dangerous products of decomposition:**
 - Poisonous gases/vapours
 - Corrosive gases/vapours
 - ammonia
 - Nitrogen oxides (NO_x)
-

* 11 Toxicological information

- **Acute toxicity:** Quantitative data on the toxicity of the preparation are not available.

· LD/LC50 values that are relevant for classification:

12125-01-8 ammonium fluoride

LD50 IPR 32 mg/kg (rat)

- **Primary irritant effect:**
 - **on the skin:** Irritant to skin and mucous membranes.
 - **on the eye:** Irritant effect.
 - **Sensitization:** No sensitizing effect known.
 - **Additional toxicological information:**
 - The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
 - Harmful
-

* 12 Ecological information:

- **Information about elimination (persistence and degradability):**
- **Other information:** Quantitative data on the ecological effect of this product are not available.
- **Ecotoxic effects:**
- **Acquatic toxicity:**
 - Toxic for aquatic organisms

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Reviewed on 16.02.2005

Product name: ECR-Masking RGT

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12125-01-8 ammonium fluoride

LC 50	(NaF) 660 mg/l (Leuciscus idus)
LC50	3638 mg/l/96h (Pimephales promelas)

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 bodies or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralized.

* 13 Disposal considerations

Product:

Recommendation Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

European waste catalogue

16 05 06	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals
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Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleaning agent: Water, if necessary with cleaning agent.

14 Transport information

ADR/GGVSE:

IMDG/GGVSee:

EMS-Number:

ICAO/IATA:

Transport/Additional information: Not dangerous according to the above specifications.

* 15 Regulatory information

Designation according to EC guidelines:

The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

Code letter and hazard designation of product:

Xn Harmful

Hazard-determining components of labelling:

ammonium fluoride

Risk phrases:

20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

Safety phrases:

9 Keep container in a well-ventilated place.

23 Do not breathe fumes/aerosol.

36/37 Wear suitable protective clothing and gloves.

60 This material and its container must be disposed of as hazardous waste.

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Reviewed on 16.02.2005

Product name: ECR-Masking RGT

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16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant R-phrases**

23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

- **Department issuing data specification sheet:** Department TSS, Dr. Manfred Kaul

- **Data compared to the previous version altered.**

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