

# Safety Data Sheet

According to EC Directive 91/155/EEC

Date of issue: 06.04.2004  
Supersedes edition of 07.08.2000

## 1. Identification of the substance/preparation and of the company/undertaking

### *Identification of the product*

Catalogue No.: 114739  
Product name: Ammonium Cell Test method: photometric 0.010 - 2.000 mg/l NH<sub>4</sub>-N  
25 Tests  
0.01 - 2.58 mg/l NH<sub>4</sub><sup>+</sup> Spectroquant®  
Reaktionsküvette

### *Use of the substance/preparation*

Reagent for analysis

### *Company/undertaking identification*

Company: Merck KGaA \* 64271 Darmstadt \* Germany \* Tel: +49 (0)6151/72-0  
Emergency telephone No.: +49 (0)6151/72112 \* Fax: +49 (0)6151/72-7780

## 2. Composition/information on ingredients

Aqueous solution of inorganic and organic compounds.

## 3. Hazards identification

No hazardous product as specified in Directive 67/548/EEC.

## 4. First aid measures

After inhalation: fresh air. Consult doctor if feeling unwell.  
After skin contact: wash off with plenty of water. Remove contaminated clothing.  
After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.  
After swallowing: make victim drink plenty of water. Consult doctor if feeling unwell.

## 5. Fire-fighting measures

Suitable extinguishing media:  
In adaption to materials stored in the immediate neighbourhood.

Special risks:  
Non-combustible. Ambient fire may liberate hazardous vapours.

Special protective equipment for fire fighting:  
Do not stay in dangerous zone without self-contained breathing apparatus.

Other information:  
Prevent fire-fighting water from entering surface water or groundwater.

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## 6. Accidental release measures

Person-related precautionary measures:  
Do not inhale vapours/aerosols.

Environmental-protection measures:  
Do not allow to enter sewerage system.

Procedures for cleaning / absorption:  
Take up with liquid-absorbent and neutralizing material (e.g. Chemizorb® OH<sup>-</sup>, Art. No. 101596). Forward for disposal. Clean up affected area.

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## 7. Handling and storage

*Handling:*

No further requirements.

*Storage:*

Tightly closed. At +15°C to +25°C.

The data apply to the entire pack.

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## 8. Exposure controls/personal protection

*Personal protective equipment:*

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection: required when vapours/aerosols are generated.

Eye protection: required

Hand protection: In full contact:  
Glove material: nitrile rubber  
Layer thickness: 0.11 mm  
Breakthrough time: > 480 Min.  
In splash contact:  
Glove material: nitrile rubber  
Layer thickness: 0.11 mm  
Breakthrough time: > 480 Min.

The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN374, for example KCL 740 Dermatril® (full contact), 740 Dermatril® (splash contact).

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

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Reaktionsküvette

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

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## 9. Physical and chemical properties

Form:	liquid	
Colour:	colourless	
Odour:	musty	
pH value	(20 °C)	~ 12.5
Melting point		not available
Boiling point		not available
Ignition temperature		not available
Flash point		not available
Explosion limits	lower	not available
	upper	not available
Density	(20 °C)	1.029 g/cm <sup>3</sup>
Solubility in Water		not available

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## 10. Stability and reactivity

### *Conditions to be avoided*

no information available

### *Substances to be avoided*

The generally known reaction partners of water.

### *Hazardous decomposition products*

no information available

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## 11. Toxicological information

### *Acute toxicity*

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

### *Further toxicological information*

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

### *Further data*

The product should be handled with the care usual when dealing with chemicals.

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## 12. Ecological information

Ecotoxic effects:

Quantitative data on the ecological effect of this product are not available.

Further ecologic data:

No ecological problems are to be expected when the product is handled and used with due care and attention.

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## 13. Disposal considerations

*Product:*

Chemicals must be disposed of in compliance with the respective national regulations. Under [www.retrologistik.de](http://www.retrologistik.de) you will find country- and substance-specific information as well as contact partners.

*Packaging:*

Merck product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system. Under [www.retrologistik.de](http://www.retrologistik.de) you will find special information on the respective national conditions as well as contact partners.

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## 14. Transport information

Road & Rail ADR, RID

UN 3316 CHEMIE-TESTSATZ, 9, III

Inland waterway ADN, ADNR not tested

Sea IMDG-Code

UN 3316 CHEMICAL KIT, 9, III

Ems F-A S-P

Air CAO, PAX

CHEMICAL KIT, 9, UN 3316, III

The transport regulations are cited according to international regulations and in the form applicable in Germany. Possible national deviations in other countries are not considered.  
**THESE TRANSPORT DATA APPLY TO THE ENTIRE PACK !**

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## 15. Regulatory information

*Labelling according to EC Directives*

Symbol: ---

R-phrases: ---

S-phrases: ---

*German regulations*

Water pollution class 1 (slightly polluting substance) VwVwS Anh. 4

Storage class VCI 10-13

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## 16. Other information

# Merck Safety Data Sheet

According to EC Directive 91/155/EEC

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Reaktionsküvette

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## *Reason for alteration*

Chapter 14: transport information.

General update.

## *Contact for information:*

HSSE-C/CI \* Tel: +49 (0)6151/722775 \* Fax: +49 (0)6151/726433 \* e-mail:prodsafe@merck.de

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*The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.*

# Safety Data Sheet

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0.01 - 2.58 mg/l NH<sub>4</sub><sup>+</sup> Spectroquant®  
Reagenz NH<sub>4</sub>-1K

### Use of the substance/preparation

Reagent for analysis

### Company/undertaking identification

Company: Merck KGaA \* 64271 Darmstadt \* Germany \* Tel: +49 (0)6151/72-0  
Emergency telephone No.: +49 (0)6151/72112 \* Fax: +49 (0)6151/72-7780

## 2. Composition/information on ingredients

Mixture of organic compounds.

### Hazardous ingredients:

Name according to EC Directives:

CAS-No.	EC No.	EC-Index-No.	Classification	Content:
Sodium nitroprusside 14402-89-2	238-373-9		T; R25	≥ 3 - < 25 %
sodium dichloroisocyanurate, dihydrate 51580-86-0	220-767-7	613-030-01-7	Xn; R22 Xi; R36/37 R31 N; R50/53	≥ 1 - < 2.5 %

(Full text of R-Phrases in heading 16)

## 3. Hazards identification

Harmful if swallowed. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## 4. First aid measures

After inhalation: fresh air. Consult doctor if feeling unwell.  
After skin contact: wash off with plenty of water. Remove contaminated clothing.  
After eye contact: rinse out with plenty of water with the eyelid held wide open.  
After swallowing: immediately make victim drink plenty of water. Call in physician.

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0.01 - 2.58 mg/l NH<sub>4</sub><sup>+</sup> Spectroquant®  
Reagenz NH<sub>4</sub>-1K

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## 5. Fire-fighting measures

Suitable extinguishing media:  
In adaption to materials stored in the immediate neighbourhood.

Special risks:  
Combustible. Development of hazardous combustion gases or vapours possible in the event of fire. The following may develop in event of fire: nitrogen oxides, hydrogen cyanide.

Special protective equipment for fire fighting:  
Do not stay in dangerous zone without self-contained breathing apparatus.

Other information:  
Contain escaping vapours with water. Prevent fire-fighting water from entering surface water or groundwater.

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## 6. Accidental release measures

Person-related precautionary measures:  
Avoid substance contact. Avoid generation of dusts; do not inhale dusts. Ensure supply of fresh air in enclosed rooms.

Environmental-protection measures:  
Do not allow to enter sewerage system.

Procedures for cleaning / absorption:  
Take up dry. Forward for disposal. Clean up affected area.

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## 7. Handling and storage

*Handling:*

No further requirements.

*Storage:*

Tightly closed. Dry. At +15°C to +25°C.

The data apply to the entire pack.

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## 8. Exposure controls/personal protection

*Personal protective equipment:*

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection: required when dusts are generated.

Eye protection: required

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Reagenz NH<sub>4</sub>-1K

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Hand protection: In full contact:  
Glove material: nitrile rubber  
Layer thickness: 0.11 mm  
Breakthrough time: > 480 Min.

In splash contact:  
Glove material: nitrile rubber  
Layer thickness: 0.11 mm  
Breakthrough time: > 480 Min.

The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN374, for example KCL 740 Dermatril® (full contact), 740 Dermatril® (splash contact).

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Industrial hygiene:  
Change contaminated clothing. Wash hands and face after working with substance.

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## 9. Physical and chemical properties

Form:	solid
Colour:	white
Odour:	weak
pH value	not available
Melting point	not available
Boiling point	not available
Ignition temperature	not available
Flash point	not available
Explosion limits	lower not available
	upper not available
Density	not available
Bulk density	~ 500-600 kg/m <sup>3</sup>
Solubility in water	(20 °C) soluble

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Reagenz NH<sub>4</sub>-1K

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## 10. Stability and reactivity

### *Conditions to be avoided*

no information available

### *Substances to be avoided*

acids, strong oxidizing agents.

### *Hazardous decomposition products*

in the event of fire: See chapter 5.

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## 11. Toxicological information

### *Acute toxicity*

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

### *Further toxicological information*

Applicable to the toxicologically determinant component:

After swallowing: drop in blood pressure, cardiovascular failure, collapse.

The following may be released from the substance under unfavourable conditions: hydrogen cyanide.

Possible symptoms: headache, dizziness, tachycardia, dyspnoea, unconsciousness, spasms, respiratory arrest.

Cannot be excluded: CNS disorders.

### *Further data*

Further hazardous properties cannot be excluded.

The product should be handled with the care usual when dealing with chemicals.

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## 12. Ecological information

### *Ecotoxic effects:*

Quantitative data on the ecological effect of this product are not available.

### *Biological effects:*

Harmfull effect on aquatic organisms. May cause long-term adverse effects in the aquatic environment.

### *Further ecologic data:*

Do not allow to enter waters, waste water, or soil!

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## 13. Disposal considerations

### *Product:*

Chemicals must be disposed of in compliance with the respective national regulations. Under [www.retrologistik.de](http://www.retrologistik.de) you will find country- and substance-specific information as well as contact partners.

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## *Packaging:*

Merck product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system. Under [www.retrologistik.de](http://www.retrologistik.de) you will find special information on the respective national conditions as well as contact partners.

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## 14. Transport information

Road & Rail ADR, RID  
UN 3316 CHEMIE-TESTSATZ, 9, III

Inland waterway ADN, ADNR not tested

Sea IMDG-Code  
UN 3316 CHEMICAL KIT, 9, III  
Ems F-A S-P

Air CAO, PAX  
CHEMICAL KIT, 9, UN 3316, III

The transport regulations are cited according to international regulations and in the form applicable in Germany. Possible national deviations in other countries are not considered.  
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## 15. Regulatory information

### *Labelling according to EC Directives*

Symbol:	Xn	Harmful
R-phrases:	22-52/53	Harmful if swallowed. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases:	---	
contains:	Sodium nitroprusside	

### *German regulations*

Water pollution class 3 (highly polluting substance) VwVwS Anh. 4

Storage class VCI 10-13

Data sheet of the Chemical Professional Association M050 Dealing with harmful substances

The employment restrictions for young workers in accordance with section 22 of the Youth Employment Protection Law (JArbSchG) are to be observed.

The employment restrictions for expectant and nursing mothers in accordance with sections 4 and 5 of the Maternity Protection Guideline (MuSchRiV) are to be observed.

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## 16. Other information

Text of any R phrases referred to under heading 2:

22 Harmful if swallowed.  
25  
31 Contact with acids liberates toxic gas.  
36/37 Irritating to eyes and respiratory system.  
50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Reduced labelling on the container due to small quantity.

*Reason for alteration*

Chapter 14: transport information.

General update.

*Contact for information:*

HSSE-C/CI \* Tel: +49 (0)6151/722775 \* Fax: +49 (0)6151/726433 \* e-mail:prodsafe@merck.de

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### *Use of the substance/preparation*

Reagent for analysis

### *Company/undertaking identification*

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Emergency telephone No.: +49 (0)6151/72112 \* Fax: +49 (0)6151/72-7780

## 2. Composition/information on ingredients

Aqueous solution of inorganic compounds.

## 3. Hazards identification

No hazardous product as specified in Directive 67/548/EEC.

## 4. First aid measures

After inhalation: fresh air.  
After skin contact: wash off with water.  
After eye contact: rinse out with plenty of water with the eyelid held wide open.  
After swallowing: immediately make victim drink plenty of water. Consult doctor if feeling unwell.

## 5. Fire-fighting measures

Suitable extinguishing media:  
In adaption to materials stored in the immediate neighbourhood.

Special risks:  
Non-combustible.

Other information:  
Prevent fire-fighting water from entering surface water or groundwater.

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Blindwertküvette

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## 6. Accidental release measures

Person-related precautionary measures:  
Do not inhale vapours/aerosols.

Environmental-protection measures:  
Do not allow to enter sewerage system.

Procedures for cleaning / absorption:  
Take up with liquid-absorbent material (e.g. Chemizorb®). Forward for disposal. Clean up affected area.

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## 7. Handling and storage

*Handling:*

No further requirements.

*Storage:*

Tightly closed. At +15°C to +25°C.

The data apply to the entire pack.

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## 8. Exposure controls/personal protection

*Personal protective equipment:*

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection: required when vapours/aerosols are generated.

Eye protection: required

Hand protection: not required

Industrial hygiene:  
Change contaminated clothing. Wash hands after working with substance.

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## 9. Physical and chemical properties

Form:	liquid
Colour:	light blue
Odour:	odourless
pH value	(20 °C) ~ 4.9
Melting point	not available
Boiling point	not available
Ignition temperature	not available
Flash point	not available
Explosion limits	lower not available upper not available

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Density	(20 °C)	1.00	g/cm <sup>3</sup>
Solubility in water	(20 °C)	soluble	

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## 10. Stability and reactivity

### *Conditions to be avoided*

no information available

### *Substances to be avoided*

The generally known reaction partners of water.

### *Hazardous decomposition products*

no information available

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## 11. Toxicological information

### *Acute toxicity*

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

### *Further toxicological information*

Hazardous properties cannot be excluded, but are relatively improbable due to the low concentration of the dissolved substance(s).

### *Further data*

The product should be handled with the care usual when dealing with chemicals.

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## 12. Ecological information

### Ecotoxic effects:

Quantitative data on the ecological effect of this product are not available.

### Further ecologic data:

No ecological problems are to be expected when the product is handled and used with due care and attention.

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## 13. Disposal considerations

### *Product:*

Chemicals must be disposed of in compliance with the respective national regulations. Under [www.retrologistik.de](http://www.retrologistik.de) you will find country- and substance-specific information as well as contact partners.

### *Packaging:*

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Inland waterway ADN, ADNR not tested

Sea IMDG-Code  
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Ems F-A S-P

Air CAO, PAX  
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The transport regulations are cited according to international regulations and in the form applicable in Germany. Possible national deviations in other countries are not considered.  
**THESE TRANSPORT DATA APPLY TO THE ENTIRE PACK !**

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## 15. Regulatory information

*Labelling according to EC Directives*

Symbol: ---

R-phrases: ---

S-phrases: ---

*German regulations*

Water pollution class 1 (slightly polluting substance) VwVwS Anh. 4

Storage class VCI 10-13

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## 16. Other information

*Reason for alteration*

Chapter 14: transport information.

General update.

*Contact for information:*

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