

# Safety Data Sheet

According to EC Directive 91/155/EEC

Date of issue: 26.04.2004 Supersedes edition of 11.06.2002

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

Identification of the product

Catalogue No.: 114785

Product name: Nickel Test Method: photometric also refill pack for art.

1.14783.0001 0.02 - 5.00 mg/l Ni 960 Tests Spectroquant®

Ni-1A

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 ethanolic solution.

Hazardous ingredients:

Name according to EC Directives:

CAS-No. EC No. EC-Index-No. Classification Content:

Iodine

7553-56-2 231-442-4 053-001-00-3 Xn; R20/21  $\geq 1 - < 10 \%$ 

N; R50

(Full text of R-Phrases in heading 16)

### 3. Hazards identification

Flammable.

#### 4. First aid measures

After inhalation: fresh air.

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 ophtalmologist.

After swallowing: immediately make victim drink plenty of water (if necessary several litres). Call in physician.

According to EC Directive 91/155/EEC

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- 5.00 mg/l Ni 960 Tests Spectroquant®

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### 5. Fire-fighting measures

Suitable extinguishing media:

CO2, foam, powder.

Special risks:

Preparation with combustible ingredients. Forms explosive mixtures with air at elevated temperatures. Vapours heavier than air. Development of hazardous combustion gases or vapours possible in the event of fire. The following may develop in event of fire: iodine.

Special protective equipment for fire fighting:

Do not stay in dangerous zone without self-contained breathing apparatus.

Other information:

Cool container with spray water from a save distance. Contain escaping vapours with water. Prevent fire-fighting water from entering surface water or groundwater.

### 6. Accidental release measures

Person-related precautionary measures:

Avoid substance contact. Do not inhale vapours/aerosols. Ensure supply of fresh air in enclosed rooms.

Environmental-protection measures:

Do not allow to enter sewerage system; risk of explosion!

Procedures for cleaning / absorption:

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

### 7. Handling and storage

Handling:

Notes for prevention of fire and explosion:

Keep away from sources of ignition. Take measures to prevent electrostatic charging.

Storage.

Tightly closed in a well-ventilated place, away from sources of ignition and heat. At  $+15^{\circ}$ C to  $+25^{\circ}$ C.

The data apply to the entire pack.

### 8. Exposure controls/personal protection

Specific control parameter

### According to EC Directive 91/155/EEC

Catalogue No.: 114785

Product name: Nickel Test Method: photometric also refill pack for art. 1.14783.0001 0.02

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#### **TRGS 900**

Name Ethanol Value 500 ml/m $^3$  960 mg/m $^3$ 

Peak limit 4 exceeding factor: 4-fold in 15 minutes

Embryotoxic Y Substances with which no foetotoxic risk is to be expected

when observing the maximum allowable concentration (MAC Germany) and the biological tolerance value at the workplace

(BAT Germany).

 $\begin{array}{ccc} \text{Name} & & \text{Iodine} \\ \text{Value} & & 0.1 \text{ ml/m}^3 \\ & & 1.1 \text{ mg/m}^3 \end{array}$ 

Peak limit =1= Concentration must not exceed limit concentration.

Skin resorption Risk of skin absorption

### 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: butyl rubber
Layer thickness: 0.7 mm
Breakthrough time: > 480 Min.

In splash contact:

Glove material: butyl rubber
Layer thickness: 0.7 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 898 Butoject® (full contact), 898 Butoject® (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).

#### Industrial hygiene:

Change contaminated clothing. Apply skin-protective barrier cream. Wash hands after working with substance.

### 9. Physical and chemical properties

Form: liquid

Colour: reddish-brown
Odour: weakly ethanolic

pH value not available

According to EC Directive 91/155/EEC

Catalogue No.: 114785

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- 5.00 mg/l Ni 960 Tests Spectroquant®

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Melting point not available
Boiling point not available
Ignition temperature not available
Flash point not available
Explosion limits lower not available
upper not available

(20 °C) 1.01 g/cm<sup>3</sup>

Solubility in

Density

water (20 °C) soluble

### 10. Stability and reactivity

Conditions to be avoided

Heating.

Substances to be avoided

alkali metals, alkaline earth metals, alkali oxides, strong oxidizing agents, halogen-halogen compounds, CrO<sub>3</sub>, chromyl chloride, ethylene oxide, fluorine, perchlorates, potassium permanganate / sulfuric acid, perchloric acid, permanganic acid, phosphorus oxides, nitric acid, nitrogen dioxide, uranium hexafluoride, hydrogen peroxide.

Hazardous decomposition products

in the event of fire: See chapter 5.

Further information

unsuitable working materials: various plastics. Explosible with air in a vaporous/gaseous state.

### 11. Toxicological information

Acute toxicity

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

Further toxicological information

Property that must be anticipated on the basis of the components of the preparation:

After skin contact: Slight irritations. Danger of skin absorption.

After eye contact: Slight irritations.

After swallowing: irritations of mucous membranes in the mouth, pharynx, oesophagus and

gastrointestinal tract.

Other notes: Sensitization possible in predisposed persons.

Further data

Further hazardous properties cannot be excluded.

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

According to EC Directive 91/155/EEC

Catalogue No.: 114785

Product name: Nickel Test Method: photometric also refill pack for art. 1.14783.0001 0.02

- 5.00 mg/l Ni 960 Tests Spectroquant®

Ni-1A

### 12. Ecological information

Ecotoxic effects:

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

Further ecologic data:

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

### 13. Disposal considerations

Product:

Chemicals must be disposed of in compliance with the respective national regulations. Under 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 you will find special information on the respective national conditions as well as contact partners.

### 14. Transport information

Road & Rail ADR, RID

UN 3316 CHEMIE-TESTSATZ, 9, II

Inland waterway ADN, ADNR not tested

Sea IMDG-Code

UN 3316 CHEMICAL KIT, 9, II

Ems F-A S-P

Air CAO, PAX

CHEMICAL KIT, 9, UN 3316, II

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!

### 15. Regulatory information

Labelling according to EC Directives

Symbol:

R-phrases: 10 Flammable.

S-phrases:

German regulations

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

Storage class VCI 3 A

Data sheet of the Chemical

M017 Solvents

**Professional Association** 

M051 Dangerous chemical substances

According to EC Directive 91/155/EEC

Catalogue No.: 114785

Product name: Nickel Test Method: photometric also refill pack for art. 1.14783.0001 0.02

- 5.00 mg/l Ni 960 Tests Spectroquant®

Ni-1A

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

### 16. Other information

Text of any R phrases referred to under heading 2:

20/21 Harmful by inhalation and in contact with skin.

Very toxic to aquatic organisms.

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

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

According to EC Directive 91/155/EEC

Date of issue: 26.04.2004 Supersedes edition of 01.02.2001

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

Identification of the product

Catalogue No.: 114785

Product name: Nickel Test Method: photometric also refill pack for art.

1.14783.0001 0.02 - 5.00 mg/l Ni 960 Tests Spectroquant®

Ni-2A

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 ammoniacal solution.

Hazardous ingredients:

Name according to EC Directives:

CAS-No. EC No. EC-Index-No. Classification Content:

ammonia solution

7664-41-7 231-635-3 007-001-01-2 C; R34  $\geq 5 - < 10 \%$ 

N; R50

(Full text of R-Phrases in heading 16)

### 3. Hazards identification

Irritating to eyes, respiratory system and skin.

#### 4. First aid measures

After inhalation: fresh air.

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

ophtalmologist.

After swallowing: immediately make victim drink plenty of water. Call in physician.

According to EC Directive 91/155/EEC

Catalogue No.: 114785

Product name: Nickel Test Method: photometric also refill pack for art. 1.14783.0001 0.02

- 5.00 mg/l Ni 960 Tests Spectroquant®

Ni-2A

### 5. Fire-fighting measures

Suitable extinguishing media:

In adaption to materials stored in the immediate neighbourhood.

Special risks:

Preparation with combustible ingredients. Ambient fire may liberate hazardous vapours. The following may develop in event of fire: nitrogen oxides.

Special protective equipment for fire fighting:

Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

Other information

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

#### 6. Accidental release measures

Person-related precautionary measures:

Avoid substance contact. Do not inhale vapours/aerosols. Ensure supply of fresh air in enclosed rooms.

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.

### 7. Handling and storage

Handling:

No further requirements.

Storage:

Tightly closed in a well-ventilated place, away from sources of ignition and heat. At  $+15^{\circ}$ C to  $+25^{\circ}$ C.

The data apply to the entire pack.

### 8. Exposure controls/personal protection

Specific control parameter

EC

Name Ammonia
Value 20 ml/m<sup>3</sup>
14 mg/m<sup>3</sup>

### According to EC Directive 91/155/EEC

Catalogue No.: 114785

Product name: Nickel Test Method: photometric also refill pack for art. 1.14783.0001 0.02

- 5.00 mg/l Ni 960 Tests Spectroquant®

Ni-2A

**TRGS 900** 

Name Ammonia Value  $50 \text{ ml/m}^3$   $35 \text{ mg/m}^3$ 

Peak limit =1= Concentration must not exceed limit concentration.

Embryotoxic Y Substances with which no foetotoxic risk is to be expected when observing the maximum allowable concentration (MA)

when observing the maximum allowable concentration (MAC Germany) and the biological tolerance value at the workplace

(BAT Germany).

Name 2,2',2''-Nitrilotriethanol

Value 5 mg/m<sup>3</sup> inhalable fraction

#### 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: natural latex Layer thickness: 0.6 mm Breakthrough time: > 480 Min.

In splash contact:

Glove material: nitrile rubber
Layer thickness: 0.11 mm
Breakthrough time: > 60 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 706 Lapren® (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).

### Industrial hygiene:

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

#### 9. Physical and chemical properties

Form: liquid
Colour: colourless
Odour: of ammonia

pH value  $(20 \,^{\circ}\text{C})$  ~ 12

Melting point not available
Boiling point not available

According to EC Directive 91/155/EEC

Catalogue No.: 114785

Product name: Nickel Test Method: photometric also refill pack for art. 1.14783.0001 0.02

- 5.00 mg/l Ni 960 Tests Spectroquant®

Ni-2A

Ignition temperature not available
Flash point not available
Explosion limits lower not available
upper not available

Density  $(20 \,^{\circ}\text{C})$  ~ 1.04 g/cm<sup>3</sup>

Solubility in

water (20 °C) soluble

### 10. Stability and reactivity

Conditions to be avoided

Heating.

Substances to be avoided

acids, anhydrides, halogenating agents. Violent reactions possible with: oxidizing agent, alkalis (Formed could be: ammonia), iodine, halogens, halogen oxides, mercury / water, silver, chlorates, hydrogen peroxide.

Hazardous decomposition products

in the event of fire: See chapter 5.

Further information

partial component: combustible; sensitive to air;

incompatible with: light metals, nonferrous metals and their compounds.

Explosible with air in a vaporous/gaseous state when heated.

### 11. Toxicological information

Acute toxicity

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

Further toxicological information

Property that must be anticipated on the basis from the components of the preparation: After inhalation: Irritations of the mucous membranes, coughing, and dyspnoea.

After skin contact: Irritations.
After eye contact: Irritations.

After swallowing: mucosal irritations, absorption.

After absorption of large quantities: Nausea, vomiting, diarrhoea, dizziness, tiredness, collapse,

unconsciousness.

Other notes:

After long-term exposure to the chemical: Damage of: liver, kidneys.

Under given conditions, contact with nitrites or nitric acid can lead to the formation of nitrosamines, which have shown themselves to be carcinogenic in animal experiments.

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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Ni-2A

### 12. Ecological information

Ecotoxic effects:

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

Biological effects:

Harmful effect due to pH shift.

Further ecologic data:

The following applies to ammonium ions in general: biological effects: fish: toxic as from 0.3 mg/l; nourishment for fish: toxic as from 0.3 mg/l.

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

### 13. Disposal considerations

Product:

Chemicals must be disposed of in compliance with the respective national regulations. Under 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 you will find special information on the respective national conditions as well as contact partners.

### 14. Transport information

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

Inland waterway ADN, ADNR not tested

Sea IMDG-Code

UN 3316 CHEMICAL KIT, 9, II

Ems F-A S-P

Air CAO, PAX

CHEMICAL KIT, 9, UN 3316, II

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!

### 15. Regulatory information

Labelling according to EC Directives

Symbol: Xi Irritant

R-phrases: ---S-phrases: ---

According to EC Directive 91/155/EEC

Catalogue No.: 114785

Product name: Nickel Test Method: photometric also refill pack for art. 1.14783.0001 0.02

- 5.00 mg/l Ni 960 Tests Spectroquant®

Ni-2A

German regulations

Water pollution class 2 (polluting substance) VwVwS Anh. 4

Storage class VCI 10-13

Data sheet of the Chemical Professional Association

M004 Irritant substances/corrosive substances

M051 Dangerous chemical substances

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

#### 16. Other information

Text of any R phrases referred to under heading 2:

34 Causes burns.

Very toxic to aquatic organisms.

Reduced labelling on the container due to small quantity.

Reason for alteration

Chapter 8: personal protective equipment.

Chapter 11: toxicological information.

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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According to EC Directive 91/155/EEC

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

Identification of the product

Catalogue No.: 114785

Product name: Nickel Test Method: photometric also refill pack for art.

1.14783.0001 0.02 - 5.00 mg/l Ni 960 Tests Spectroquant®

Ni-3A

*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

Ethanolic solution.

#### 3. Hazards identification

Highly flammable.

### 4. First aid measures

After inhalation: fresh air.

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

ophtalmologist if necessary.

After swallowing: immediately make victim drink plenty of water. Consult doctor in the event of any

complaints.

#### 5. Fire-fighting measures

Suitable extinguishing media:

CO<sub>2</sub>, foam, powder.

Special risks:

Combustible. Forms explosive mixtures with air at ambient temperatures. Vapours heavier than air.

Development of hazardous combustion gases or vapours possible in the event of fire.

Special protective equipment for fire fighting:

Do not stay in dangerous zone without self-contained breathing apparatus.

Other information:

Cool container with spray water from a save distance. Contain escaping vapours with water. Prevent fire-fighting water from entering surface water or groundwater.

According to EC Directive 91/155/EEC

Catalogue No.: 114785

Product name: Nickel Test Method: photometric also refill pack for art. 1.14783.0001 0.02

- 5.00 mg/l Ni 960 Tests Spectroquant®

Ni-3A

#### Accidental release measures 6.

Person-related precautionary measures:

Avoid substance contact. Do not inhale vapours/aerosols. Ensure supply of fresh air in enclosed

Environmental-protection measures:

Do not allow to enter sewerage system; risk of explosion!

Procedures for cleaning / absorption:

Take up with liquid-absorbent material (e.g. Chemizorb®). Forward for disposal. Clean up affected

#### 7. Handling and storage

Handling:

No further requirements.

Storage:

Tightly closed in a well-ventilated place, away from sources of ignition and heat. At +15°C to +25°C.

The data apply to the entire pack.

#### 8. **Exposure controls/personal protection**

Specific control parameter

**TRGS 900** 

Ethanol Name  $500 \text{ ml/m}^3$ Value

 $960 \text{ mg/m}^3$ 

4 exceeding factor: 4-fold in 15 minutes Peak limit

Y Substances with which no foetotoxic risk is to be expected Embryotoxic

when observing the maximum allowable concentration (MAC Germany) and the biological tolerance value at the workplace

(BAT Germany).

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.

required when vapours/aerosols are generated. Filter A (acc. to DIN Respiratory protection:

3181) for vapours of organic compounds.

Eye protection: required

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Ni-3A

Hand protection: In full contact:

Glove material: butyl rubber
Layer thickness: 0.7 mm
Breakthrough time: > 480 Min.

In splash contact:

Glove material: polychloroprene
Layer thickness: 0.65 mm

Breakthrough time: > 60 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 898 Butoject® (full contact), 720 Camapren® (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).

Industrial hygiene:

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

### 9. Physical and chemical properties

Form: liquid
Colour: colourless
Odour: of ethanol

pH value not available

Melting point not available

Boiling point not available

Ignition temperature not available

Flash point ~9 °C

Explosion limits lower not available

upper not available

Density  $(20 \,^{\circ}\text{C})$   $\sim 0.8 \,\text{g/cm}^3$ 

Solubility in

water (20 °C) soluble

log Pow: -0.32 (ethanol)
Bioconcentration factor 0.66 (ethanol)

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Ni-3A

### 10. Stability and reactivity

Conditions to be avoided

Heating.

Substances to be avoided

alkali metals, alkaline earth metals, alkali oxides, strong oxidizing agents, halogen-halogen compounds, CrO<sub>3</sub>, chromyl chloride, ethylene oxide, fluorine, perchlorates, potassium permanganate / sulfuric acid, perchloric acid, permanganic acid, phosphorus oxides, nitric acid, nitrogen dioxide, uranium hexafluoride, hydrogen peroxide.

Hazardous decomposition products

no information available

Further information

unsuitable working materials: various plastics, rubber.

Explosible with air in a vaporous/gaseous state.

### 11. Toxicological information

Acute toxicity

 $LC_{50}$  (inhalation, rat): >8000 mg/l /4 h (ethanol).  $LD_{50}$  (dermal, rabbit): >20000 mg/kg (ethanol).

LD<sub>50</sub> (oral, rat): 6200 mg/kg (ethanol).

Further toxicological information

Properties to be expected on the basis of the main component of the preparation:

After inhalation of vapours: slight mucosal irritations. Risk of absorption. After skin contact: After long-term exposure to the chemical: dermatitis. After eye contact: Slight irritations.

After swallowing of large amounts: nausea and vomiting.

Systemic effects: euphoria.

After absorption of large quantities: dizziness, inebriation, narcosis, respiratory paralysis.

Further data

Further hazardous properties cannot be excluded.

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

According to EC Directive 91/155/EEC

Catalogue No.: 114785

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### 12. Ecological information

The following data refer to the toxicologically determinant component of the formulation: (ethanol)

Abiotic degradation: Rapid degradation. (air)

Biologic degradation:

Biodegradation: 94 % modified OECD screening test;

Readily biodegradable.

Behavior in environmental compartments: Distribution: log p(o/w): -0.32 (ethanol);

No bioaccumulation is to be expected ( $\log P(o/w < 1)$ ).

Ecotoxic effects:

Biological effects: In high concentrations: Harmfull effect on aquatic organisms. When used properly, no impairments in the function of waste- water-treatment plants are to be expected.

Fish toxicity: L.idus LC<sub>50</sub>: 8140 mg/l /48 h;

Daphnia toxicity: Daphnia magna EC<sub>50</sub>: 9268-14221 mg/l /48 h;

Maximum permissible toxic concentration:

Algeal toxicity: Sc.quadricauda IC5: 5000 mg/l /7 d; Bacterial toxicity: Ps.putida EC5: 6500 mg/l /16

h; Protozoa: É.sulcatum EC<sub>5</sub>: 65 mg/l /72 h.

Further ecologic data:

BOD<sub>5</sub>: 0.93-Ĭ.67 g/g; COD: 1.99 g/g; TOD: 2.10 g/g; BOD 74 % from TOD /5 d; COD 90 % from TOD;

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

### 13. Disposal considerations

### Product:

Chemicals must be disposed of in compliance with the respective national regulations. Under 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 you will find special information on the respective national conditions as well as contact partners.

According to EC Directive 91/155/EEC

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Ni-3A

### 14. Transport information

Road & Rail ADR, RID

UN 3316 CHEMIE-TESTSATZ, 9, II

Inland waterway ADN, ADNR not tested

Sea IMDG-Code

UN 3316 CHEMICAL KIT, 9, II

Ems F-A S-P

Air CAO, PAX

CHEMICAL KIT, 9, UN 3316, II

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!

### 15. Regulatory information

Labelling according to EC Directives

Symbol: F Highly flammable

R-phrases: ---S-phrases: ---

German regulations

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

Storage class VCI 3 A

Data sheet of the Chemical Professional Association

M017 Solvents

M051 Dangerous chemical substances

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

### 16. Other information

Reduced labelling on the container due to small quantity.

Reason for alteration

Chapter 14: transport information.

General update.

Contact for information:

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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.