

# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Single-Element ICP - Standard Solution ROTI®Star 10 000 mg/l Ir

article number: **2518**  
Version: **3.0 en**  
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Version: (2)

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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Identification of the substance **Single-Element ICP - Standard Solution ROTI®Star 10 000 mg/l Ir**

Article number 2518

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

Relevant identified uses: Laboratory chemical  
Laboratory and analytical use

Uses advised against: Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

### 1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0  
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**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

### 1.4 Emergency telephone number

| Name  | Street    | Postal code/city     | Telephone    | Website |
|---|-----------|----------------------|--------------|---------|
| National Poisons Information Service<br>City Hospital | Dudley Rd | B187QH<br>Birmingham | 844 892 0111 |         |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

| Section | Hazard class  | Cat-egory | Hazard class and category | Hazard statement |
|---------|---|-----------|---------------------------|------------------|
| 2.16    | Substance or mixture corrosive to metals  | 1         | Met. Corr. 1              | H290             |
| 3.2     | Skin corrosion/irritation   | 2         | Skin Irrit. 2             | H315             |
| 3.3     | Serious eye damage/eye irritation   | 2         | Eye Irrit. 2              | H319             |
| 3.8R    | Specific target organ toxicity - single exposure (respiratory tract irritation) | 3         | STOT SE 3                 | H335             |

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For full text of abbreviations: see SECTION 16

### 2.2 Label elements

#### Labelling

#### Signal word

Warning

#### Pictograms

GHS05, GHS07



#### Hazard statements

H290 May be corrosive to metals  
H315 Causes skin irritation  
H319 Causes serious eye irritation  
H335 May cause respiratory irritation

#### Precautionary statements

##### Precautionary statements - prevention

P280 Wear protective gloves/protective clothing/eye protection/face protection

##### Precautionary statements - response

P302+P352 IF ON SKIN: Wash with plenty of water  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

**Hazardous ingredients for labelling:** Hydrochloric acid .... %, Iridium trichloride

### 2.3 Other hazards

#### Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

not relevant (mixture)

### 3.2 Mixtures

#### Description of the mixture

| Name of substance        | Identifier                                     | Wt%       | Classification acc. to GHS   | Pictograms | Notes                   |
|--------------------------|--|-----------|--|------------|-------------------------|
| Hydrochloric acid .... % | CAS No<br>7647-01-0<br><br>EC No<br>231-595-7  | 10        | Met. Corr. 1 / H290<br>Skin Corr. 1B / H314<br>Eye Dam. 1 / H318<br>STOT SE 3 / H335 |            | B(a)<br>GHS-HC<br>IOELV |
| Iridium trichloride      | CAS No<br>10025-83-9<br><br>EC No<br>233-044-6 | 0,1 - < 3 | Skin Irrit. 2 / H315<br>Eye Irrit. 2 / H319<br>STOT SE 3 / H335                      |            |                         |

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### Notes

B(a): The classification refers to an aqueous solution

GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI)

IOELV: Substance with a community indicative occupational exposure limit value

| Name of substance        | Identifier                                    | Specific Conc. Limits  | M-Factors | ATE | Exposure route |
|--------------------------|---|--|-----------|-----|----------------|
| Hydrochloric acid .... % | CAS No<br>7647-01-0<br><br>EC No<br>231-595-7 | Met. Corr. 1; H290: C ≥ 0,1 %<br>Skin Corr. 1B; H314: C ≥ 25 %<br>Skin Irrit. 2; H315: 10 % ≤ C < 25 %<br>Eye Dam. 1; H318: C ≥ 25 %<br>Eye Irrit. 2; H319: 10 % ≤ C < 25 %<br>STOT SE 3; H335: C ≥ 10 % | -         | -   |                |

For full text of abbreviations: see SECTION 16

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

Rinse skin with water/shower. In case of skin irritation, consult a physician.

#### Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

#### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Irritation, Cough, Dyspnoea

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

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings  
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

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### Unsuitable extinguishing media

water jet

### 5.2 Special hazards arising from the substance or mixture

Non-combustible.

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures



#### For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. The product is an acid. Before discharge into sewage plants the product normally needs to be neutralised.

### 6.3 Methods and material for containment and cleaning up

#### Advice on how to contain a spill

Covering of drains.

#### Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

#### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Use extractor hood (laboratory). Provision of sufficient ventilation.

#### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice:

#### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

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### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

#### Occupational exposure limit values (Workplace Exposure Limits)

| Country | Name of agent     | CAS No    | Identifier | TWA [ppm] | TWA [mg/m <sup>3</sup> ] | STEL [ppm] | STEL [mg/m <sup>3</sup> ] | Ceiling-C [ppm] | Ceiling-C [mg/m <sup>3</sup> ] | Notation | Source     |
|---------|-------------------|-----------|------------|-----------|--------------------------|------------|---------------------------|-----------------|--------------------------------|----------|------------|
| EU      | hydrogen chloride | 7647-01-0 | IOELV      | 5         | 8                        | 10         | 15                        |                 |                                |          | 2000/39/EC |
| GB      | hydrogen chloride | 7647-01-0 | WEL        | 1         | 2                        | 5          | 8                         |                 |                                | ga       | EH40/2005  |

#### Notation

|           |  |
|-----------|--|
| Ceiling-C | Ceiling value is a limit value above which exposure should not occur   |
| ga        | As gases and aerosols  |
| STEL      | Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)                   |
| TWA       | Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified) |

#### Relevant DNELs of components of the mixture

| Name of substance       | CAS No    | Endpoint | Threshold level      | Protection goal, route of exposure | Used in           | Exposure time           |
|-------------------------|-----------|----------|----------------------|------------------------------------|-------------------|-------------------------|
| Hydrochloric acid ... % | 7647-01-0 | DNEL     | 8 mg/m <sup>3</sup>  | human, inhalatory                  | worker (industry) | chronic - local effects |
| Hydrochloric acid ... % | 7647-01-0 | DNEL     | 15 mg/m <sup>3</sup> | human, inhalatory                  | worker (industry) | acute - local effects   |

### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

##### Skin protection



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### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 °C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

### • type of material

NBR (Nitrile rubber)

### • material thickness

>0,11 mm

### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

### Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation.

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|  |                      |
|--|----------------------|
| Physical state   | liquid               |
| Colour   | colourless           |
| Odour  | stinging             |
| Melting point/freezing point                             | ~0 °C at 1.013 mPa   |
| Boiling point or initial boiling point and boiling range | ~100 °C at 1.013 mPa |
| Flammability   | non-combustible      |
| Lower and upper explosion limit                          | not determined       |
| Flash point  | not determined       |
| Auto-ignition temperature                                | not determined       |
| Decomposition temperature                                | not relevant         |
| pH (value)   | <2                   |
| Kinematic viscosity                                      | not determined       |

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### Solubility(ies)

Water solubility miscible in any proportion

### Partition coefficient

Partition coefficient n-octanol/water (log value): not relevant (inorganic)

Vapour pressure not determined

### Density and/or relative density

Density 1,05 g/cm<sup>3</sup> at 20 °C

Relative vapour density information on this property is not available

Particle characteristics not relevant (liquid)

### Other safety parameters

Oxidising properties none

## 9.2 Other information

Information with regard to physical hazard classes:

Corrosive to metals category 1: corrosive to metals

Other safety characteristics:

Miscibility completely miscible with water

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Substance or mixture corrosive to metals.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

**Violent reaction with:** Ammonia (NH<sub>3</sub>), Bases, Metals, Reducing agents, Strong alkali, Organic solvents

### 10.4 Conditions to avoid

Keep away from heat.

### 10.5 Incompatible materials

different metals (due to the release of hydrogen in an acid/alkaline medium)

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

#### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

#### Classification acc. to GHS

##### Acute toxicity

Shall not be classified as acutely toxic.

##### Skin corrosion/irritation

Causes skin irritation.

##### Serious eye damage/eye irritation

Causes serious eye irritation.

##### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

##### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

##### Carcinogenicity

Shall not be classified as carcinogenic.

##### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

##### Specific target organ toxicity - single exposure

May cause respiratory irritation.

##### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

##### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

### Symptoms related to the physical, chemical and toxicological characteristics

#### • If swallowed

Data are not available.

#### • If in eyes

Causes serious eye irritation

#### • If inhaled

Irritation to respiratory tract, cough, Dyspnoea

#### • If on skin

causes skin irritation

#### • Other information

This information is based upon the present state of our knowledge.



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### 11.2 Endocrine disrupting properties

None of the ingredients are listed.

### 11.3 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

#### Biodegradation

The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.2 Process of degradability

Data are not available.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Endocrine disrupting properties

None of the ingredients are listed.

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Waste catalogue ordinance (Germany).

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

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## SECTION 14: Transport information

### 14.1 UN number or ID number

|           |         |
|-----------|---------|
| ADRRID    | UN 1789 |
| IMDG-Code | UN 1789 |
| ICAO-TI   | UN 1789 |

### 14.2 UN proper shipping name

|           |                   |
|-----------|-------------------|
| ADRRID    | HYDROCHLORIC ACID |
| IMDG-Code | HYDROCHLORIC ACID |
| ICAO-TI   | Hydrochloric acid |

### 14.3 Transport hazard class(es)

|           |   |
|-----------|---|
| ADRRID    | 8 |
| IMDG-Code | 8 |
| ICAO-TI   | 8 |

### 14.4 Packing group

|           |     |
|-----------|-----|
| ADRRID    | III |
| IMDG-Code | III |
| ICAO-TI   | III |

### 14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

### 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

### 14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

#### Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information

|                                       |  |
|---------------------------------------|--|
| Proper shipping name                  | HYDROCHLORIC ACID                      |
| Particulars in the transport document | UN1789, HYDROCHLORIC ACID, 8, III, (E) |
| Classification code                   | C1                                     |
| Danger label(s)                       | 8                                      |



|                          |     |
|--------------------------|-----|
| Special provisions (SP)  | 520 |
| Excepted quantities (EQ) | E1  |
| Limited quantities (LQ)  | 5 L |
| Transport category (TC)  | 3   |

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|                               |    |
|-------------------------------|----|
| Tunnel restriction code (TRC) | E  |
| Hazard identification No      | 80 |
| <b>Emergency Action Code</b>  | 2R |

### Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) Additional information

|                            |    |
|----------------------------|----|
| <b>Classification code</b> | C1 |
| <b>Danger label(s)</b>     | 8  |



|                                 |     |
|---------------------------------|-----|
| <b>Special provisions (SP)</b>  | 520 |
| <b>Excepted quantities (EQ)</b> | E1  |
| <b>Limited quantities (LQ)</b>  | 5 L |
| <b>Transport category (TC)</b>  | 3   |
| <b>Hazard identification No</b> | 80  |

### International Maritime Dangerous Goods Code (IMDG) - Additional information

|  |                                   |
|--|-----------------------------------|
| Proper shipping name                     | HYDROCHLORIC ACID                 |
| Particulars in the shipper's declaration | UN1789, HYDROCHLORIC ACID, 8, III |
| Marine pollutant                         | -                                 |
| <b>Danger label(s)</b>                   | 8                                 |



|                          |           |
|--------------------------|-----------|
| Special provisions (SP)  | 223       |
| Excepted quantities (EQ) | E1        |
| Limited quantities (LQ)  | 5 L       |
| EmS                      | F-A, S-B  |
| Stowage category         | C         |
| <b>Segregation group</b> | 1 - Acids |

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

|  |                                   |
|--|-----------------------------------|
| Proper shipping name                     | Hydrochloric acid                 |
| Particulars in the shipper's declaration | UN1789, Hydrochloric acid, 8, III |
| <b>Danger label(s)</b>                   | 8                                 |



|                          |     |
|--------------------------|-----|
| Special provisions (SP)  | A3  |
| Excepted quantities (EQ) | E1  |
| Limited quantities (LQ)  | 1 L |

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## SECTION 15: Regulatory information

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

#### Relevant provisions of the European Union (EU)

##### Seveso Directive

| 2012/18/EU (Seveso III) |                                       |   |       |
|-------------------------|---------------------------------------|---|-------|
| No                      | Dangerous substance/hazard categories | Qualifying quantity (tonnes) for the application of lower and upper-tier requirements | Notes |
|                         | not assigned                          |   |       |

##### Deco-Paint Directive

|             |              |
|-------------|--------------|
| VOC content | 0 %<br>0 g/l |
|-------------|--------------|

##### Industrial Emissions Directive (IED)

|  |       |
|--|-------|
| VOC content                                | 0 %   |
| VOC content (Water content was discounted) | 0 g/l |

##### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

##### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

##### Water Framework Directive (WFD)

| List of pollutants (WFD) |                            |        |           |         |
|--------------------------|----------------------------|--------|-----------|---------|
| Name of substance        | Name acc. to inventory     | CAS No | Listed in | Remarks |
| Iridium trichloride      | Metals and their compounds |        | a)        |         |

##### Legend

A) Indicative list of the main pollutants

##### Regulation on the marketing and use of explosives precursors

none of the ingredients are listed

##### Regulation on drug precursors

| Name of substance        | CAS No    | Classification | CN Code    | Threshold level |
|--------------------------|-----------|----------------|------------|-----------------|
| Hydrochloric acid .... % | 7647-01-0 | Category 3     | 2806 10 00 |                 |

##### Regulation on substances that deplete the ozone layer (ODS)

none of the ingredients are listed

##### Regulation concerning the export and import of hazardous chemicals (PIC)

none of the ingredients are listed

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### Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

### UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances

| Name of substance       | CAS No    | Listed in | HS code |
|-------------------------|-----------|-----------|---------|
| Hydrochloric acid ... % | 7647-01-0 | Table II  | 2806.10 |

### National inventories

| Country | Inventory  | Status                         |
|---------|------------|--------------------------------|
| AU      | AIIC       | all ingredients are listed     |
| CA      | DSL        | all ingredients are listed     |
| CN      | IECSC      | not all ingredients are listed |
| EU      | ECSI       | all ingredients are listed     |
| EU      | REACH Reg. | not all ingredients are listed |
| JP      | CSCL-ENCS  | not all ingredients are listed |
| KR      | KECI       | all ingredients are listed     |
| MX      | INSQ       | not all ingredients are listed |
| NZ      | NZIoC      | all ingredients are listed     |
| PH      | PICCS      | not all ingredients are listed |
| TR      | CICR       | not all ingredients are listed |
| TW      | TCSI       | all ingredients are listed     |
| US      | TSCA       | all ingredients are listed     |

#### Legend

|            |   |
|------------|---|
| AIIC       | Australian Inventory of Industrial Chemicals                            |
| CICR       | Chemical Inventory and Control Regulation                               |
| CSCL-ENCS  | List of Existing and New Chemical Substances (CSCL-ENCS)                |
| DSL        | Domestic Substances List (DSL)  |
| ECSI       | EC Substance Inventory (EINECS, ELINCS, NLP)                            |
| IECSC      | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ       | National Inventory of Chemical Substances                               |
| KECI       | Korea Existing Chemicals Inventory                                      |
| NZIoC      | New Zealand Inventory of Chemicals                                      |
| PICCS      | Philippine Inventory of Chemicals and Chemical Substances (PICCS)       |
| REACH Reg. | REACH registered substances   |
| TCSI       | Taiwan Chemical Substance Inventory                                     |
| TSCA       | Toxic Substance Control Act   |

## 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

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### SECTION 16: Other information

#### Indication of changes (revised safety data sheet)

Alignment to regulation:

Restructuring: section 9, section 14

| Section | Former entry (text/value)  | Actual entry (text/value)  | Safety-relevant |
|---------|--|--|-----------------|
| 2.1     |  | Classification acc. to GHS:<br>change in the listing (table)   | yes             |
| 2.2     |  | Precautionary statements   | yes             |
| 2.2     |  | Precautionary statements - prevention  | yes             |
| 2.2     |  | Precautionary statements - prevention:<br>change in the listing (table)  | yes             |
| 2.2     |  | Precautionary statements - response  | yes             |
| 2.2     |  | Precautionary statements - response:<br>change in the listing (table)  | yes             |
| 2.2     | Labelling of packages where the contents do not exceed 125 ml:<br>Signal word: Warning |  | yes             |
| 2.2     |  | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table)                              | yes             |
| 2.2     |  | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table)                              | yes             |
| 2.2     | contains:<br>Hydrochloric acid .... %, Iridium trichloride                             |  | yes             |
| 2.3     | Other hazards:<br>There is no additional information.                                  | Other hazards  | yes             |
| 2.3     |  | Results of PBT and vPvB assessment:<br>This mixture does not contain any substances that are assessed to be a PBT or a vPvB. | yes             |

#### Abbreviations and acronyms

| Abbr.      | Descriptions of used abbreviations  |
|------------|---|
| 2000/39/EC | Commission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC   |
| ADN        | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |
| ADR        | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)   |
| ATE        | Acute Toxicity Estimate   |
| CAS        | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)  |
| Ceiling-C  | Ceiling value   |
| CN Code    | Combined Nomenclature   |
| DGR        | Dangerous Goods Regulations (see IATA/DGR)  |

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| Abbr.       | Descriptions of used abbreviations  |
|-------------|---|
| DNEL        | Derived No-Effect Level   |
| EC No       | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)     |
| EH40/2005   | EH40/2005 Workplace exposure limits ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> ) |
| EINECS      | European Inventory of Existing Commercial Chemical Substances   |
| ELINCS      | European List of Notified Chemical Substances   |
| EmS         | Emergency Schedule  |
| Eye Dam.    | Seriously damaging to the eye   |
| Eye Irrit.  | Irritant to the eye   |
| GHS         | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations   |
| HS          | Harmonized Commodity Description and Coding System (Harmonized System, drawn up by the World Customs Organisation)  |
| IATA        | International Air Transport Association   |
| IATA/DGR    | Dangerous Goods Regulations (DGR) for the air transport (IATA)  |
| ICAO        | International Civil Aviation Organization   |
| ICAO-TI     | Technical instructions for the safe transport of dangerous goods by air   |
| IMDG        | International Maritime Dangerous Goods Code   |
| IMDG-Code   | International Maritime Dangerous Goods Code   |
| IOELV       | Indicative occupational exposure limit value  |
| Met. Corr.  | Substance or mixture corrosive to metals  |
| NLP         | No-Longer Polymer   |
| PBT         | Persistent, Bioaccumulative and Toxic   |
| ppm         | Parts per million   |
| REACH       | Registration, Evaluation, Authorisation and Restriction of Chemicals  |
| RID         | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)               |
| Skin Corr.  | Corrosive to skin   |
| Skin Irrit. | Irritant to skin  |
| STEL        | Short-term exposure limit   |
| STOT SE     | Specific target organ toxicity - single exposure  |
| TWA         | Time-weighted average   |
| VOC         | Volatile Organic Compounds  |
| vPvB        | Very Persistent and very Bioaccumulative  |
| WEL         | Workplace exposure limit  |

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### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### Classification procedure

Physical and chemical properties. The classification is based on tested mixture. Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

### List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text                                     |
|------|--|
| H290 | May be corrosive to metals.              |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation.                  |
| H318 | Causes serious eye damage.               |
| H319 | Causes serious eye irritation.           |
| H335 | May cause respiratory irritation.        |

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.