

Safety data sheet
according to 1907/2006/EC, Article 31 (REACH)

Printing date 12.07.2013

Revision: 12.07.2013

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** Karl Fischer reagent 1,5, one-component reagent
- **Article number:** RE0014
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the preparation:** Laboratory reagent
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Scharlab, S.L.
C/Gato Pérez, 33. Pol.Ind. Mas d'en Cisa
08181 Sentmenat (Barcelona) SPAIN
Tel: (+34) 93 715 19 39 - FAX: (+34) 93 715 27 65
email: scharlab@scharlab.com
Internet Web Site: www.scharlab.com
- **Regional representation:**
Chem-Supply Pty Ltd
38-50 Bedford Street
Gillman South Australia 5013 AUSTRALIA
Tel: (08) 8440 2000 - FAX: (08) 8440 2001
email: info@chemsupply.com.au
Internet Web Site: www.chemsupply.com.au
- **Further information obtainable from:** technical department
- **Emergency telephone number:**
EMERGENCY CONTACT NUMBER: +61 08 8440 2000
Business hours: 8:30am to 5:00pm, Monday to Friday.

2 Hazards identification

- **Classification of the substance or mixture**



GHS02 flame

H226 Flammable liquid and vapour.



GHS08 health hazard

H360 May damage fertility or the unborn child.



GHS05 corrosion

H314 Causes severe skin burns and eye damage.



GHS07

H312 Harmful in contact with skin.

H332 Harmful if inhaled.

H303 May be harmful if swallowed.

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• **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



T; Toxic

R60-61: May impair fertility. May cause harm to the unborn child.



Xn; Harmful

R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.



Xi; Irritant

R38-41: Irritating to skin. Risk of serious damage to eyes.

R10: Flammable.

• **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

• **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

• **Label elements**

• **GHS label elements**

The product is classified and labelled according to the Globally Harmonized System (GHS).

• **Hazard pictograms**



GHS02 GHS05 GHS07 GHS08

• **Signal word** Danger

• **Hazard-determining components of labelling:**

2-methoxyethanol

sulphur dioxide

pyridine

iodine

• **Hazard statements**

Flammable liquid and vapour.

May be harmful if swallowed.

Harmful in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

May damage fertility or the unborn child.

• **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

• **Information concerning particular hazards for human and environment:**

• **Safety phrases:**

53 Avoid exposure - obtain special instructions before use.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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
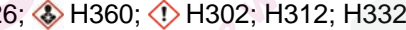
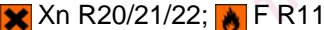


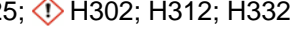
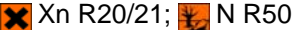


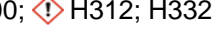
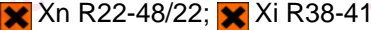
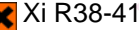
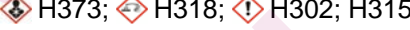





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- 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- 60 This material and its container must be disposed of as hazardous waste.
- **Other hazards**
 - **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.

3 Composition/information on ingredients

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

CAS: 109-86-4	2-methoxyethanol	50-100%
EINECS: 203-713-7	 T Repr. Cat. 2 R60-61;  Xn R20/21/22	
Index number: 603-011-00-4	R10	
Reg.nr.: 01-2119494721-33-XXXX	 H226;  H360; 	
CAS: 110-86-1	pyridine	10-25%
EINECS: 203-809-9	 Xn R20/21/22;  F R11	
Index number: 613-002-00-7	 H225; 	
Reg.nr.: 01-2119493105-40-XXXX		
CAS: 7553-56-2	iodine	10-25%
EINECS: 231-442-4	 Xn R20/21;  N R50	
Index number: 053-001-00-3	 H400; 	
Reg.nr.: 01-2119485285-30-XXXX		
CAS: 111-42-2	2,2'-iminodiethanol	5-10%
EINECS: 203-868-0	 Xn R22-48/22;  Xi R38-41	
Index number: 603-071-00-1	 H373; 	
Reg.nr.: 01-2119488930-28-XXXX		
CAS: 7446-09-5	sulphur dioxide	5-10%
EINECS: 231-195-2	 T R23;  C R34	
Index number: 016-011-00-9	 H331; 	

- **SVHC**

109-86-4 2-methoxyethanol

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

4 First aid measures

- **Description of 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. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Call for a doctor immediately.

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- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.
- **Hazchem code:** •3W

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

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

- **Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

109-86-4 2-methoxyethanolNES 16 mg/m³, 5 ppm
Sk**110-86-1 pyridine**NES 16 mg/m³, 5 ppm**7553-56-2 iodine**NES 1* mg/m³, 0.1* ppm
*Peak limitation**111-42-2 2,2'-iminodiethanol**NES 13 mg/m³, 3 ppm**7446-09-5 sulphur dioxide**NES Short-term value: 13 mg/m³, 5 ppm
Long-term value: 5.2 mg/m³, 2 ppm

- **Additional information:** The lists valid during the making were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the skin.
Avoid contact with the eyes and skin.

- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. 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.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· **Form:**

Fluid

· **Colour:**

According to product specification

· **Odour:**

Characteristic

· **Odour threshold:**

Not determined.

· **pH-value:**

Not determined.

· **Change in condition**

· **Melting point/Melting range:**

Undetermined.

· **Boiling point/Boiling range:**

> 34 °C

· **Flash point:**

35 °C

· **Flammability (solid, gaseous):**

Not applicable.

· **Ignition temperature:**

310 °C

· **Decomposition temperature:**

Not determined.

· **Self-igniting:**

Product is not selfigniting.

· **Danger of explosion:**

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

· **Lower:**

1.7 Vol %

· **Upper:**

20.6 Vol %

· **Vapour pressure at 20 °C:**

20 hPa

· **Density:**

Not determined.

· **Relative density**

Not determined.

· **Vapour density**

Not determined.

· **Evaporation rate**

Not determined.

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

· **Dynamic:**

Not determined.

· **Kinematic:**

Not determined.

· **Solvent content:**

· **Organic solvents:**

63.2 %

· **Solids content:**

11.6 %

· **Other information**

No further relevant information available.

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10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values relevant for classification:**
109-86-4 2-methoxyethanol
Oral LD50 3400 mg/kg (rat)
Dermal LD50 2000 mg/kg (rabbit)
Inhalative LC50/4 h 1500 mg/l (rat)
110-86-1 pyridine
Oral LD50 891 mg/kg (rat)
Dermal LD50 1121 mg/kg (rabbit)
111-42-2 2,2'-iminodiethanol
Oral LD50 1600 mg/kg (rat)
Dermal LD50 12200 mg/kg (rabbit)
- **Primary irritant effect:**
 - **on the skin:** Irritant to skin and mucous membranes.
 - **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Repr. 1B

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

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- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

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

14 Transport information

- **UN-Number** UN1992
 - **ADG, IMDG, IATA** UN1992
 - **UN proper shipping name** 1992 FLAMMABLE LIQUID, TOXIC, N.O.S.
 - **ADG** FLAMMABLE LIQUID, TOXIC, N.O.S.
 - **IMDG, IATA** FLAMMABLE LIQUID, TOXIC, N.O.S.
 - **Transport hazard class(es)**
 - **ADG, IMDG, IATA**
- 

- **Class** 3 Flammable liquids.
 - **Label** 3+6.1
 - **Packing group** III
 - **ADG, IMDG, IATA** III
 - **Environmental hazards:**
 - **Marine pollutant:** No
 - **Special precautions for user** Warning: Flammable liquids.
 - **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
 - **Transport/Additional information:**
-
- **ADG**
 - **Limited quantities (LQ)** 5L
 - **Transport category** 3
 - **Tunnel restriction code** D/E
 - **UN "Model Regulation":** UN1992, FLAMMABLE LIQUID, TOXIC, N.O.S., 3 (6.1), III
 - **Hazchem code:** •3W

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15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Australian Inventory of Chemical Substances**

All ingredients are listed.

- **Standard for the Uniform Scheduling of Drugs and Poisons**

7553-56-2 iodine: S2, S6

111-42-2 2,2'-iminodiethanol: S5, S6

- **GHS label elements**

The product is classified and labelled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02 GHS05 GHS07 GHS08

- **Signal word** Danger
- **Hazard-determining components of labelling:**

2-methoxyethanol

sulphur dioxide

pyridine

iodine

- **Hazard statements**

Flammable liquid and vapour.

May be harmful if swallowed.

Harmful in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

May damage fertility or the unborn child.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **National regulations:**

- **Other regulations, limitations and prohibitive regulations**

- **Substances of very high concern (SVHC) according to REACH, Article 57**

109-86-4 2-methoxyethanol

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

16 Other information

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

- **Relevant phrases**

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

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H280 Contains gas under pressure; may explode if heated.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H360 May damage fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.

R10 Flammable.
R11 Highly flammable.
R20/21 Harmful by inhalation and in contact with skin.
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R22 Harmful if swallowed.
R23 Toxic by inhalation.
R34 Causes burns.
R38 Irritating to skin.
R41 Risk of serious damage to eyes.
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R50 Very toxic to aquatic organisms.
R60 May impair fertility.
R61 May cause harm to the unborn child.

• **Department issuing MSDS:** product safety department

• **Contact:** msds@scharlab.com

• **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADG: Australian Code for the Transport of Dangerous Goods by Road & Rail.

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent