

Safety data sheet
 according to UK REACH

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Version number 6.05 (replaces version 6.04)

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

- **1.1 Product identifier**
- **Trade name:** Karl Fischer's Reagent Composite
- **Article number:** 1574
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 PANREAC QUIMICA S.L.U.
 C/Garraf 2
 Polígono Pla de la Bruguera
 E-08211 Castellar del Vallès (Barcelona)
 Tel. (+34) 937 489 400
 Fax. (+34) 937 489 401
 e-mail: product.safety@itwreagents.com
- **Further information obtainable from:** email: product.safety@panreac.com
- **1.4 Emergency telephone number:**
 Single telephone number for emergency calls: 112 (EU)
 Tel.: (+34) 937 489 499

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**

Flam. Liq. 3	H226	Flammable liquid and vapour.
Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Acute Tox. 3	H331	Toxic if inhaled.
Skin Corr. 1B	H314	Causes severe skin burns and eye damage.
Eye Dam. 1	H318	Causes serious eye damage.
Repr. 1B	H360FD	May damage fertility. May damage the unborn child.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
 The product is classified and labelled according to the GB CLP regulation.

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GB

Trade name: Karl Fischer's Reagent Composite

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· **Hazard pictograms**



GHS02 GHS05 GHS06 GHS08

· **Signal word** Danger

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

2-methoxyethanol
sulphur dioxide
pyridine
Iodine

· **Hazard statements**

H226 Flammable liquid and vapour.
H302+H312 Harmful if swallowed or in contact with skin.
H331 Toxic if inhaled.
H314 Causes severe skin burns and eye damage.
H360FD May damage fertility. May damage the unborn child.

· **Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**

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

· **Dangerous components:**

CAS: 109-86-4 EINECS: 203-713-7 Reg.nr.: 01-2119494721-33-XXXX	2-methoxyethanol Flam. Liq. 3, H226; Repr. 1B, H360FD; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	>50-<100%
CAS: 110-86-1 EINECS: 203-809-9 Reg.nr.: 01-2119493105-40-XXXX	pyridine Flam. Liq. 2, H225; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	>15-≤20%
CAS: 7553-56-2 EINECS: 231-442-4 Reg.nr.: 01-2119485285-30-XXXX	Iodine Aquatic Acute 1, H400; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	>10-≤15%

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CAS: 7446-09-5

EINECS: 231-195-2

Reg.nr.: 01-2119485028-34-XXXX

sulphur dioxide

Acute Tox. 3, H331; Skin Corr. 1B, H314; Press. Gas (Comp.), H280

>5-≤10%

· **SVHC**

109-86-4 2-methoxyethanol

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

SECTION 4: First aid measures

· 4.1 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.

Remove breathing equipment only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

Involve doctor immediately.

· **After inhalation:**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

· **After skin contact:**

Call a doctor immediately.

Immediately wash with water and soap and rinse thoroughly.

Immediately remove any clothing soiled by the product.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:** Call a doctor immediately.

· **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **5.2 Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Nitrogen oxides (NO_x)

Carbon monoxide and carbon dioxide

Sulphur oxides (SO_x)

Forms explosive mixtures with air at ambient temperatures.

Vapours are heavier than air and may spread along floors.

Beware of backfiring.

Forms explosive mixtures with air on intense heating.

Hydrogen iodide (HI)

· **5.3 Advice for firefighters**

· **Protective equipment:**

Mouth respiratory protective device.

Wear self-contained respiratory protective device.

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Trade name: Karl Fischer's Reagent Composite

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· **Additional information**

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Contain escaping vapours with water.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.
Avoid substance contact.
Do not inhale steams/aerosols.

· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
Clean up affected area.

· **6.4 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.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.
Protect from heat.
Protect against electrostatic charges.
Keep respiratory protective device available.

· **7.2 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:** Away from sources of ignition and heat.

· **Further information about storage conditions:**

Keep container tightly sealed.
Protect from heat and direct sunlight.
Open receptacle only under localised extractor facilities.
Store receptacle in a well ventilated area.
Store under lock and key and with access restricted to technical experts or their assistants only.

· **Recommended storage temperature:** Room Temperature

· **Storage class:** 3

· **7.3 Specific end use(s)** No further relevant information available.

GB

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

109-86-4 2-methoxyethanol

WEL	Long-term value: 3 mg/m ³ , 1 ppm
Sk	

110-86-1 pyridine

WEL	Short-term value: 33 mg/m ³ , 10 ppm
	Long-term value: 16 mg/m ³ , 5 ppm

7553-56-2 Iodine

WEL	Short-term value: 1.1 mg/m ³ , 0.1 ppm
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7446-09-5 sulphur dioxide

WEL	Short-term value: 2.7 mg/m ³ , 1 ppm
	Long-term value: 1.3 mg/m ³ , 0.5 ppm

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

8.2 Exposure controls

Appropriate engineering controls No further data; see section 7.

Individual protection measures, such as 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 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.

Use suitable respiratory protective device only when aerosol or mist is formed.

Hand protection



Protective gloves

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

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.

For the permanent contact gloves made of the following materials are suitable:

Recommended thickness of the material: ≥ 0.11 mm

Value for the permeation: Level ≥ 480 min

As protection from splashes gloves made of the following materials are suitable:

Recommended thickness of the material: ≥ 0.11 mm

Value for the permeation: Level ≥ 480 min

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· **Eye/face protection**



Gauze goggles

· **Body protection:**

Use protective suit.

Flame retardant antistatic protective clothing

SECTION 9: Physical and chemical properties

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

· **General Information**

· Physical state	Liquid
· Colour:	Dark
· Odour:	Characteristic
· Odour threshold:	Not determined.
· Melting point/freezing point:	Undetermined.
· Boiling point or initial boiling point and boiling range	Undetermined.
· Flammability	Flammable.
· Lower and upper explosion limit	
· Lower:	1.7 Vol % (110-86-1 pyridine)
· Upper:	20 Vol % (109-86-4 2-methoxyethanol)
· Flash point:	35 °C
· Decomposition temperature:	Not determined.
· pH at 20 °C	4-5
· Viscosity:	
· Kinematic viscosity	Not determined.
· Dynamic:	Not determined.
· Solubility	
· water:	Fully miscible.
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure at 20 °C:	20 hPa (110-86-1 pyridine)
· Density and/or relative density	
· Density at 20 °C:	1.13 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.

· **9.2 Other information**

· **Appearance:**

· **Form:** Liquid

· **Important information on protection of health and environment, and on safety.**

· **Ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Solvent content:**

· **Organic solvents:** 63.8 %

· **VOC (EC)** 63.80 %

· **Solids content:** 11.8 %

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- **Change in condition**
- **Evaporation rate** Not determined.
- **Information with regard to physical hazard classes**
- **Explosives** Void
- **Flammable gases** Void
- **Aerosols** Void
- **Oxidising gases** Void
- **Gases under pressure** Void
- **Flammable liquids** Flammable liquid and vapour.
- **Flammable solids** Void
- **Self-reactive substances and mixtures** Void
- **Pyrophoric liquids** Void
- **Pyrophoric solids** Void
- **Self-heating substances and mixtures** Void
- **Substances and mixtures, which emit flammable gases in contact with water** Void
- **Oxidising liquids** Void
- **Oxidising solids** Void
- **Organic peroxides** Void
- **Corrosive to metals** Void
- **Desensitised explosives** Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** In the event of fire: See chapter 5

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity**
Harmful if swallowed or in contact with skin.
Toxic if inhaled.
- **LD/LC50 values relevant for classification:**
Quantitative data on the toxicological effect of this product are not available.

Components	Type	Value	Species
ATE (Acute Toxicity Estimates)			
Oral	LD50	1,106 mg/kg (rat)	
Dermal	LD50	661 mg/kg (rabbit)	
Inhalative	LC50/4 h	6.55 mg/l	
109-86-4 2-methoxyethanol			
Oral	LD50	1,910 mg/kg (rat)	

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Dermal	LD50	500 mg/kg (rabbit)
Inhalative	LC50/4 h	11 mg/l (ATE)
7446-09-5 sulphur dioxide		
Inhalative	LC50/4 h	700 mg/l (ATE)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Causes severe skin burns and eye damage.
- **Serious eye damage/irritation** Causes serious eye damage.
- **After inhalation:** Strong caustic effect on skin and mucous membranes.
- **Reproductive toxicity** May damage fertility. May damage the unborn child.
- **11.2 Information on other hazards**

· **Endocrine disrupting properties**

None of the ingredients is listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.

Type of test	Effective concentration	Method	Assessment
109-86-4 2-methoxyethanol			
EC50/48 h	45 mg/l	(daphnia magna)	
EC50/96 h	28 mg/l	(aquatic plants other than algae)	

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Danger to drinking water if even small quantities leak into the ground.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Chemicals must be disposed of in compliance with the respective national regulations.
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.

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Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

· 14.1 UN number or ID number	UN2929
· ADR, IMDG, IATA	
· 14.2 UN proper shipping name	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.
· ADR, IMDG, IATA	(SULPHUR DIOXIDE, ETHYLENE GLYCOL MONOMETHYL ETHER)
· 14.3 Transport hazard class(es)	
· ADR	
	
· Class	6.1 (TF1) Toxic substances.
· Label	6.1+3
· IMDG	
	
· Class	6.1 Toxic substances.
· Label	6.1/3
· IATA	
	
· Class	6.1 Toxic substances.
· Label	6.1 (3)
· 14.4 Packing group	
· ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user	Warning: Toxic substances.
· Hazard identification number (Kemler code):	63
· EMS Number:	F-E,S-D
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.

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Trade name: Karl Fischer's Reagent Composite

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· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)**

100 ml

· **Excepted quantities (EQ)**

Code: E4

Maximum net quantity per inner packaging: 1 ml

Maximum net quantity per outer packaging: 500 ml

· **Transport category**

2

· **Tunnel restriction code**

D/E

· **IMDG**

· **Limited quantities (LQ)**

100 ml

· **Excepted quantities (EQ)**

Code: E4

Maximum net quantity per inner packaging: 1 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC,
N.O.S. (SULPHUR DIOXIDE, ETHYLENE GLYCOL
MONOMETHYL ETHER), 6.1 (3), II

SECTION 15: Regulatory information

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

· **Poisons Act**

· **Regulated explosives precursors**

None of the ingredients is listed.

· **Regulated poisons**

None of the ingredients is listed.

· **Reportable explosives precursors**

None of the ingredients is listed.

· **Reportable poisons**

None of the ingredients is listed.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category**

H2 ACUTE TOXIC

P5c FLAMMABLE LIQUIDS

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

· **National regulations:**

· **Substances of very high concern (SVHC) according to UK REACH**

109-86-4 2-methoxyethanol

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

SECTION 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.

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Trade name: Karl Fischer's Reagent Composite

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· **Relevant phrases**

H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
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.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H360FD May damage fertility. May damage the unborn child.
H400 Very toxic to aquatic life.

· **Department issuing SDS:** Dept. Compliance

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international 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
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
ATE: Acute toxicity estimate values
Press. Gas (Comp.): Gases under pressure – Compressed gas
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Repr. 1B: Reproductive toxicity – Category 1B
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

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