

**Section 1. Identification****1.1 Product Identifier**

CHE2274

Product Name

KARL FISCHER REAGENT (stabilized) 500ml.

CAS Number

Mixture

REACH Registration No

A registration number is not available as the substance or its uses are exempt, the annual tonnage does not require a registration or the registration is envisaged for a later date.

**1.2 Relevant identified uses of the substance or mixture & uses advised against**

Uses of Material

Chemical for industrial and laboratory use. Not suitable for domestic use.

**1.3 Supplier**

Scientific Laboratory Supplies

Unit 6, Foresters Avenue  
Fairham Business Park  
Fairham  
Nottingham  
NG11 2AF  
UNITED KINGDOM

Phone

0115 9821111

Fax

0115 9825275

Email

sales@scientific-labs.com

**1.4 Emergency Telephone**(08:00-17:00) 0115 9821111  
(24hr) 112  
(Have this document to hand)**Section 2. Hazards Identification****2.1 Classification of the substance or mixture****Classification according to regulation 1272/2008/EC**

Flammable liquid, category 3

H226: Flammable liquid and vapour.

Acute toxicity, category 3 (inhalation)

H331: Toxic if inhaled.

Acute toxicity, category 4 (oral)

H302: Harmful if swallowed.

Skin corrosion/irritation, category 2

H315: Causes skin irritation.

Acute toxicity, category 4 (dermal)

H312: Harmful in contact with skin.

Serious eye damage/irritation, category 2

H319: Causes serious eye irritation.

Reproductive toxicity, category 1B

H360: May damage fertility or the unborn child.

**2.2 Label elements****Labelling according to regulation 1272/2008/EC**

Signal word

Danger

Hazard Pictograms



**Hazard Statements** Flammable liquid and vapour. Harmful if swallowed. Harmful in contact with skin. Causes skin irritation. Causes serious eye irritation. Toxic if inhaled. May damage fertility or the unborn child.

**Precautionary Statements** Keep container tightly closed. Wear protective gloves / protective clothing / eye protection / face protection. Avoid breathing dust / fume / gas / mist / vapours / spray. **IF SWALLOWED:** Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

## Section 3. Composition

### 3.2 Mixtures

| Component | CAS No.   | EEC No.   | REACH No.             | Conc w/w | CLP Classification (1272/2008/CE)   |
|-----------|-----------|-----------|-----------------------|----------|---|
| Methanol  | 67-56-1   | 200-659-6 | 01-2119433307-44-XXXX | >50%     | Flam. Liq. 2, Acute Tox. 3 (O), Acute Tox. 3 (D), Acute Tox. 3 (I), STOT SE 1                   |
| Pyridine  | 110-86-1  | 203-809-9 |                       | 25%      | Flam. Liq. 2, Acute Tox. 4 (O), Skin Irrit. 2, Acute Tox. 4 (D), Acute Tox. 4 (I), Eye Irrit. 2 |
| Iodine    | 7553-56-2 | 231-442-4 |                       | 15%      | Acute Tox. 4 (D), Acute Tox. 4 (I), STOT SE 3 (I), STOT RE 1, Aquatic Acute 1                   |

## Section 4. First Aid

### 4.1 Description of first aid measures

|                                      |   |
|--------------------------------------|---|
| Eyes                                 | Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION.   |
| Skin                                 | Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re-use. In severe cases or if exposure has been great, OBTAIN MEDICAL ATTENTION.  |
| Inhalation                           | Remove from exposure. Keep warm and at rest. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.                        |
| Ingestion                            | If conscious give plenty of water to drink. Do not induce vomiting. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY. |
| Personal protection for first aiders | Wear protective gloves / eye protection.  |

### 4.2 Most important symptoms and effects, both acute & 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. Fire Fighting

### 5.1 Extinguishing media

|                     |  |
|---------------------|--|
| Extinguishing Media | Alcohol resistant foam, dry powder, carbon dioxide or vaporising liquid. Use water spray to keep fire exposed containers cool. |
| Unsuitable Media    | Do not use water jet.  |

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

|         |  |
|---------|--|
| Hazards | Vapour-air mixtures are explosive. Vapours may flow along surfaces to distant ignition sources and flash back. |
|---------|--|

### 5.3 Advice for firefighters

|                         |  |
|-------------------------|--|
| Advice for firefighters | Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus. |
|-------------------------|--|

## Section 6. Accidental Release Measures

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

Personal Protection Ensure no sources of ignition. Avoid breathing vapour. Use approved personal protective equipment. Evacuate area immediately. Do not allow general use of area until it is safe to do so. Beware : vapour is heavier than air and will tend to accumulate at low spots.

### 6.2 Environmental precautions

Environmental Keep material out of sewers, storm drains, surface waters and soil. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.

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

Major Spillage Contain and absorb on inert material. Transfer absorbent to salvage container for removal. Wash area down with copious amounts of water.

Minor Spillage Contain and absorb on inert material. Transfer absorbent to container for removal. Allow solvent to evaporate in remote area, then dispose of absorbent as solid chemical waste. Wash area down with copious amounts of water.

### 6.4 Reference to other sections

See section 8.2 for information on protective equipment and section 13 for information on disposal.

## Section 7. Storage & Handling

### 7.1 Precautions for safe handling

All transfer systems should be earthed to prevent accumulation of static electricity. Avoid contact with skin and eyes. Do not breath vapours. Do not allow to contaminate clothing.

Ensure Local Exhaust Ventilation maintains vapour concentrations below the recommended limits.

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

Well ventilated, cool, dry storage . Protect from direct sun and store away from sources of ignition. Keep containers closed when not in use.

### 7.3 Specific end use(s)

See section 1.2.

## Section 8. Workplace Exposure & Personal Protection

### 8.1 Control parameters

| Component | CAS No    | Concentration | Workplace Exposure Limits |              |                          |              |
|-----------|-----------|---------------|---------------------------|--------------|--------------------------|--------------|
|           |           |               | Long Term (8hr TWA)       |              | Short Term 15min period) |              |
| Methanol  | 67-56-1   | >50%          | 200.0 ppm                 | 266.0 mg/m-3 | 250.0 ppm                | 333.0 mg/m-3 |
| Pyridine  | 110-86-1  | 25%           | 5.0 ppm                   | 10.0 mg/m-3  | 16.0 ppm                 | 33.0 mg/m-3  |
| Iodine    | 7553-56-2 | 15%           | -                         | -            | 0.1 ppm                  | 1.0 mg/m-3   |

Exposure data source(s) IOELV: Indicative Occupational Exposure Limit Value.

### 8.2 Exposure controls

Respiratory Protection Use L.E.V. or natural ventilation to maintain vapour concentrations below exposure limits. If not, use a well maintained chemical cartridge organic vapour respirator, or use self contained breathing apparatus.

Hand Protection Use solvent resistant gloves.

Eye Protection Use tightly fitting chemical splash proof glasses or goggles.

Skin Protection Avoid contact with skin. If skin contact or contamination of clothing is likely, protective clothing must be worn.

Special Hazards No special precautions required.

## Section 9. Physical & Chemical Properties

### 9.1 Information on basic physical and chemical properties

|                       |   |
|-----------------------|---|
| Appearance            | Orange-brown to dark orange-brown solution. |
| Odour                 | Pungent.                                    |
| pH                    | Not applicable                              |
| Boiling Point         | 70°C  |
| Melting Point         | -25°C                                       |
| Flash Point           | 12°C (Closed cup)                           |
| Upper Flammable Limit | 12.4%                                       |
| Lower Flammable Limit | 2%  |
| Auto Ignition         | Not applicable                              |
| Explosive Properties  | Moderate/severe in confined spaces.         |
| Oxidising Properties  | No.   |
| Vapour Pressure       | Not applicable                              |
| Relative Density      | 0.9000                                      |
| Water Solubility      | Completely miscible in water.               |

## 9.2 Other information

No data available.

## Section 10. Stability & Reactivity

|   |  |
|---|--|
| 10.1 Reactivity                         | No data available.                                       |
| 10.2 Chemical Stability                 | Stable under normal conditions                           |
| 10.3 Possibility of hazardous reactions | No data available.                                       |
| 10.4 Conditions to Avoid                | Hot surfaces, naked flames or other sources of ignition. |
| 10.5 Incompatible Materials             | Strong oxidising agents.                                 |
| 10.6 Hazardous Decomposition Products   | May produce hazardous fumes if involved in a fire.       |

## Section 11. Toxicological Information

### 11.1 Information on toxicological effects

|                      |  |
|----------------------|--|
| Eyes                 | Both the vapour and liquid will, be irritating to the eyes but unlikely to cause serious injury.   |
| Skin                 | Can be absorbed through the skin and may cause irritation and dermatitis.  |
| LD50 Skin            | Not available  |
| Ingestion            | Harmful if swallowed.  |
| LD50 Oral            | Not available  |
| Inhalation           | Exposure to vapour concentrations above the occupational exposure limits will produce irritation of the eyes and respiratory tract. Symptoms include drowsiness, mental confusion and unconsciousness. effects the central nervous system resulting in gastrointestinal tract causing, headache, nausea, giddiness, vomiting, insomnia and anorexia. |
| LD50 Inhalation      | Not available  |
| TCLo                 | Not available  |
| Carcinogenicity      | Not considered to be a carcinogen.   |
| Mutagenicity         | May be a mutagen.  |
| Reproductive Effects | At low concentrations possesses no hazard to reproduction or teratogenic effects.  |
| Other Information    | The vapour can be detected from its smell at 1ppm. This does not, however, act as a reliable warning due to olfactory fatigue.   |

## Section 12. Ecological

|                |   |
|----------------|---|
| 12.1 Toxicity  | Moderately toxic to mammals, fish and bacteria. |
| LC50 Algal     | Not available                                   |
| LC50 Crustacea | Not available                                   |
| LC50 Fish      | Not available                                   |

|                                       |                          |
|---------------------------------------|--------------------------|
| 12.2 Persistence and degradability    | No data available.       |
| 12.3 Bioaccumulative potential        | No data available.       |
| 12.4 Mobility in soil                 | No data available.       |
| 12.5 Results of PBT & vPvB assessment | Assessment not required. |
| 12.6 Other adverse effects            | None known at present.   |

## Section 13. Disposal Considerations

### 13.1 Waste treatment methods

|                        |  |
|------------------------|--|
| Disposal Methods       | Dispose of in a licensed incinerator for organic solvents. Do not dispose of as domestic waste. Never dispose of into water courses or sewerage systems due to high risk of explosion. |
| Contaminated Packaging | Wash out containers with water. Use a licensed waste disposer.   |

## Section 14. Transport Information




|                                   |                                  |
|-----------------------------------|----------------------------------|
| 14.1 UN Number                    | 1992                             |
| 14.2 Proper Shipping Name         | Flammable liquid, toxic, N.O.S.  |
| 14.3 Transport classes            |                                  |
| UN classification                 | 3                                |
| Subsidiary hazard(s)              | 6.1                              |
| Transport category                | 2                                |
| ADR Hazard ID                     | 336                              |
| Tunnel Restriction Code           | D/E                              |
| 14.4 Packing Group                | II                               |
| 14.5 Environment hazards          | See section 12.                  |
| 14.6 Special precautions for user | No special precautions required. |
| 14.7 Transport in bulk            | Not transported in bulk.         |



## Section 15. Regulatory Information

### 15.1 Safety, health and environment regulations specific for substance/mixture.

#### Classification, Labeling & Packaging of Substances & Mixtures Regulations (1272/2008/CE)

|                          |  |
|--------------------------|--|
| Classification           | Flammable liquid, category 3; Acute toxicity, category 3 (inhalation); Acute toxicity, category 4 (oral); Skin corrosion/irritation, category 2; Acute toxicity, category 4 (dermal); Serious eye damage/irritation, category 2; Reproductive toxicity, category 1B  |
| Signal word              | Danger   |
| Hazard Pictograms        |      |
| Hazard Statements        | H226, H302, H312, H315, H319, H331, H360<br>Flammable liquid and vapour. Harmful if swallowed. Harmful in contact with skin. Causes skin irritation. Causes serious eye irritation. Toxic if inhaled. May damage fertility or the unborn child.  |
| Precautionary Statements | P233, P280, P261, P301+P310, P331<br>Keep container tightly closed. Wear protective gloves / protective clothing / eye protection / face protection. Avoid breathing dust / fume / gas / mist / vapours / spray. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. |

## 15.2 Chemical safety assessment

Assessment not required.

## Section 16. Other Information

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment. See sections 11 for toxicological information and section 12 for ecological information.

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