## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME**
PERCHLORIC ACID 0.1N SOLUTION IN GLACIAL ACETIC ACID

**PROPER SHIPPING NAME**
CORROSIVE LIQUID, FLAMMABLE, N.O.S.(contains acetic acid glacial,acetic anhydride and perchloric acid)

**PRODUCT USE**
Laboratory reagent.

**SUPPLIER**
Company: S D FINE- CHEM LIMITED
Address:
315- 317, T.V.Ind.Estate,
248, Worli Road,
Mumbai- 400030, India
www.sdfine.com
Telephone: 91- 22 24959898/99
Fax: 91- 22 2493 7232
Email: technical@sdfine.com

## Section 2 - HAZARDS IDENTIFICATION

**GHS Classification**
Acute Toxicity Category 4
Flammable Liquid Category 3
Metal Corrosion Category 1
Serious Eye Damage Category 1
Skin Corrosion/Irritation Category 1B

**EMERGENCY OVERVIEW**

**HAZARD**
DANGER

Determined by using GHS criteria

| | |
|---|---|
| H226 | Flammable liquid and vapour. |
| H290 | May be corrosive to metals. |
| H312 | Harmful in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |

**PRECAUTIONARY STATEMENTS**
**Prevention**

| Code | Phrase |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P233 | Keep container tightly closed. |

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| | |
|---|---|
| P234 | Keep only in original container. |
| P240 | Ground/bond container and receiving equipment. |
| P241 | Use explosion- proof electrical/ventilating/lighting/ ... /equipment |
| P242 | Use only non- sparking tools. |
| P243 | Take precautionary measures against static discharge. |
| P260 | Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. |
| P264 | Wash ... thoroughly after handling. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| **Response** | |
| **Code** | **Phrase** |
| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| P302+P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P303+P361+P353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P304+P340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| 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 or doctor/physician. |
| P312 | Call a POISON CENTER or doctor/physician if you feel unwell. |
| P363 | Wash contaminated clothing before reuse. |
| P390 | Absorb spillage to prevent material damage. |
| **Storage** | |
| **Code** | **Phrase** |
| P403+P235 | Store in a well- ventilated place. Keep cool. |
| P405 | Store locked up. |
| P406 | Store in corrosive resistant container or with a resistant inner liner. |
| **Disposal** | |
| **Code** | **Phrase** |
| P501 | Dispose of contents/container to ... |

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| NAME | CAS RN | % |
|---|---|---|
| acetic acid glacial | 64-19-7 | >60 |
| acetic anhydride | 108-24-7 | >2 |
| perchloric acid | 7601-90-3 | <1 |

## Section 4 - FIRST AID MEASURES

**SWALLOWED**

■ Rinse mouth out with plenty of water.

If poisoning occurs, contact a doctor or Poisons Information Centre.

• If swallowed do NOT induce vomiting.
• If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
• Observe the patient carefully.
• Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.

**EYE**

■ If this product comes in contact with the eyes:

• Immediately hold eyelids apart and flush the eye continuously with running water.
• Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
• Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
• Transport to hospital or doctor without delay.

**SKIN**

■ If skin or hair contact occurs:

• Immediately flush body and clothes with large amounts of water, using safety shower if available.
• Quickly remove all contaminated clothing, including footwear.

continued...

• Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.
• Transport to hospital, or doctor.

**INHALED**
• If fumes or combustion products are inhaled remove from contaminated area.
• Lay patient down. Keep warm and rested.
• Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
• Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

**NOTES TO PHYSICIAN**
■ For acute or short term repeated exposures to strong acids:
• Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
• Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
• Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
• Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the dessicating action of the acid on proteins in specific tissues.

## Section 5 - FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA**
• Water spray or fog.
• Alcohol stable foam.
Carbon dioxide.

**FIRE FIGHTING**
• Alert Fire Brigade and tell them location and nature of hazard.
• May be violently or explosively reactive.
• Wear full body protective clothing with breathing apparatus.
• Prevent, by any means available, spillage from entering drains or water course.

**FIRE/EXPLOSION HAZARD**
• Liquid and vapour are flammable.
• Moderate fire hazard when exposed to heat or flame.
• Vapour may travel a considerable distance to source of ignition.
• Heating may cause expansion or decomposition leading to violent rupture of containers.
May emit corrosive fumes.
Other combustion products include: carbon dioxide ($CO_2$) and chlorides.

**FIRE INCOMPATIBILITY**
■ Avoid reaction with strong oxidisers, alkalies and selected amines.
Avoid contact with common metals and their alloys.

## Section 6 - ACCIDENTAL RELEASE MEASURES

**MINOR SPILLS**
■ Clean up all spills immediately.
Avoid breathing vapours and contact with skin and eyes.
Wear protective clothing, impervious gloves and safety glasses.
Carefully, contain and neutralise with slaked lime.
Wipe up Place in suitable containers for disposal.
Wash spill area with large quantities of water.

**MAJOR SPILLS**
• DO NOT touch the spill material Clear area of personnel and move upwind.
Alert Fire Brigade and tell them location and nature of hazard.
• May be violently or explosively reactive.
• Wear full body protective clothing with breathing apparatus.
• Prevent, by any means available, spillage from entering drains or water and water courses.
Shut off all possible sources of ignition and increase ventilation.
No smoking or naked lights within area Stop leak if safe to do so.

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Contain spill with sand, earth or vermiculite.
Collect recoverable product into labelled containers for recycling.
Neutralise remaining product with soda ash or slaked lime which is slurried with water.
DO NOT USE WATER OR NEUTRALISING AGENTS INDISCRIMINATELY ON LARGE SPILLS.
Absorb remaining product with sand, earth or vermiculite.
Collect and seal in labelled drums for disposal.
Spread area with lime and leave for at least 1 hour before washing.
Wash spill area with large quantities of water.

**Personal Protective Equipment advice is contained in Section 8 of the MSDS.**

## Section 7 - HANDLING AND STORAGE

**PROCEDURE FOR HANDLING**
■ Avoid generating and breathing mist and vapour.
• Avoid smoking, naked lights or ignition sources.
• DO NOT allow clothing wet with material to stay in contact with skin.
Use good occupational work practice.
• Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.
Avoid contact with skin and eyes when using concentrate and solutions.
• Wear personal protective equipment when handling.
When handling, DO NOT eat, drink or smoke.
Keep containers securely sealed when not in use.
• WARNING: Contact with water generates heat.
WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.
until atmosphere has been checked.
Always wash hands with soap and water after handling. Work clothes should be laundered separately.

**SUITABLE CONTAINER**
• Glass container is suitable for laboratory quantities.

**STORAGE INCOMPATIBILITY**
• Segregate from alkalies, oxidising agents and chemicals readily decomposed by acids, i.e. cyanides, sulfides, carbonates.
Avoid contact with organic matter.

**STORAGE REQUIREMENTS**
• Store in original containers.
• Keep containers securely sealed.
• Store in a cool, dry area protected from environmental extremes.
• Store away from incompatible materials and foodstuff containers.
No smoking, naked lights or ignition sources.
Store at ambient temperatures.
Store away from incompatible materials.
• Keep containers securely sealed • Check regularly for spills and leaks.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

**EXPOSURE CONTROLS**

| Source | Material | TWA ppm | TWA mg/m³ | STEL ppm | STEL mg/m³ |
|---|---|---|---|---|---|
| India Permissible Levels of Certain Chemical Substances in Work Environment | acetic acid glacial (Acetic acid) | 10 | 25 | 15 | 37 |

The following materials had no OELs on our records
• acetic anhydride: CAS:108- 24- 7
• perchloric acid: CAS:7601- 90- 3

continued...

**MATERIAL DATA**
ACETIC ACID GLACIAL:
ACETIC ANHYDRIDE:
■ for acetic acid:
NOTE:Detector tubes for acetic acid, measuring in excess of 1 ppm, are commercially available.
Exposure at or below the TLV-TWA and TLV-STEL is thought to protect the worker against conjunctival, nose and respiratory tract irritation.
Odour Safety Factor(OSF)
OSF=21 ("ACETIC ACID, GLACIAL").

EMD CHEMICALS PERCHLORIC ACID 0.1N IN ACETIC ACID:
Not available

ACETIC ANHYDRIDE:
■ For acetic anhydride:
Odour Threshold Value: <0.14 ppm (detection); 0.36 ppm (recognition)
Exposure at or below the TLV-TWA is thought to protect the worker from the significant risk of ocular and respiratory irritation.
Odour Safety Factor(OSF)
OSF=38 (ACETIC ANHYDRIDE).
Exposed individuals are reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.
Odour Safety Factor (OSF) is determined to fall into either Class A or B.
The Odour Safety Factor (OSF) is defined as:
OSF= Exposure Standard (TWA) ppm/ Odour Threshold Value (OTV) ppm
Classification into classes follows:

| Class | OSF | Description |
|---|---|---|
| A | 550 | Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV- TWA for example) is being reached, even when distracted by working activities |
| B | 26- 550 | As " A" for 50- 90% of persons being distracted |
| C | 1- 26 | As " A" for less than 50% of persons being distracted |
| D | 0.18- 1 | 10- 50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached |
| E | <0.18 | As " D" for less than 10% of persons aware of being tested |

.

PERCHLORIC ACID:
■ Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations.
CEL TWA: 1 mg/m3; STEL: 2 mg/m3
[compare OEL TWA (Czechoslovakia): 1 mg/m3; STEL: 2 mg/m3]

**PERSONAL PROTECTION**


**RESPIRATOR**
•Type AB-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

**EYE**
• Safety glasses with side shields; or as required,
• Chemical goggles.

**continued...**

• Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent].

**HANDS/FEET**
• Rubber Gloves or • Neoprene rubber gloves • Butyl rubber gloves.

**OTHER**
• Impervious protective clothing.
• Ensure that there is ready access to eye wash unit.
Ensure there is ready access to an emergency shower.

**ENGINEERING CONTROLS**
■ Use in a well-ventilated area.
Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
The basic types of engineering controls are:
Process controls which involve changing the way a job activity or process is done to reduce the risk.
Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**
Clear, colourless, flammable liquid with vinegar-like odour; mixes with water.

**PHYSICAL PROPERTIES**
Liquid.
Mixes with water.
Corrosive.
Acid.

| | | | |
|---|---|---|---|
| State | Liquid | Molecular Weight | Not Applicable |
| Melting Range (°C) | 14.86 | Viscosity | Not Available |
| Boiling Range (°C) | 118.23 | Solubility in water (g/L) | Miscible |
| Flash Point (°C) | 42.78 (CC) | pH (1% solution) | Not Available |
| Decomposition Temp (°C) | Not Available | pH (as supplied) | Not Available |
| Autoignition Temp (°C) | 314.85 (acetic anhydride) | Vapour Pressure (kPa) | 1.94 @ 25 C |
| Upper Explosive Limit (%) | 16 | Specific Gravity (water=1) | 1.05 |
| Lower Explosive Limit (%) | 5.4 | Relative Vapour Density (air=1) | 2.07 |
| Volatile Component (%vol) | 100 | Evaporation Rate | 1.34 (BuAc=1) (acetic acid) |

## Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

**CONDITIONS CONTRIBUTING TO INSTABILITY**
• Reacts with metals producing flammable / explosive hydrogen gas.
• Presence of incompatible materials.
• Product is considered stable.
• Hazardous polymerisation will not occur.
*For incompatible materials - refer to Section 7 - Handling and Storage.*

continued...

## Section 11 - TOXICOLOGICAL INFORMATION

**Health hazard summary table:**

| | |
|---|---|
| Acute toxicity | Acute Tox. (dermal) 4 |
| Skin corrosion/irritation | Skin Corr. 1 B |
| Serious eye damage/irritation | Eye Dam. 1 |
| Respiratory or skin sensitization | Not applicable |
| Germ cell mutagenicity | Not applicable |
| Carcinogenicity | Not applicable |
| Reproductive toxicity | Not applicable |
| STOT- single exposure | Not applicable |
| STOT- repeated exposure | Not applicable |
| Aspiration hazard | Not applicable |

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS**

**SWALLOWED**
■ Accidental ingestion of the material may be damaging to the health of the individual.
■ Ingestion of acidic corrosives may produce burns around and in the mouth, the throat and oesophagus.
Immediate pain and difficulties in swallowing and speaking may also be evident.
■ Ingestion of low-molecular organic acid solutions may produce spontaneous haemorrhaging, production of blood clots, gastrointestinal damage and narrowing of the oesophagus and stomach entry.

**EYE**
■ Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns.
Mild burns of the epithelia generally recover rapidly and completely.
■ The material may produce severe irritation to the eye causing pronounced inflammation.
Repeated or prolonged exposure to irritants may produce conjunctivitis.
■ Solutions of low-molecular weight organic acids cause pain and injuryto the eyes.

**SKIN**
■ Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.
■ Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue.
■ Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.
Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
■ The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
Repeated exposures may produce severe ulceration.

**INHALED**
■ Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage.
There may be dizziness, headache, nausea and weakness.
■ Inhalation of quantities of liquid mist may be extremely hazardous, even lethal due to spasm, extreme irritation of larynx and bronchi, chemical pneumonitis and pulmonary oedema.

**CHRONIC HEALTH EFFECTS**
■ Repeated or prolonged exposure to acids may result in the erosion of teeth, swelling and/or ulceration of mouth lining.
Irritation of airways to lung, with cough, and inflammation of lung tissue often occurs. Chronic exposure may inflame the skin or conjunctiva.

**TOXICITY AND IRRITATION**
■ Not available. Refer to individual constituents.

**SKIN**

| | | | |
|---|---|---|---|
| acetic acid glacial | GESAMP/EHS Composite List - GESAMP Hazard Profiles | D1: skin irritation/corrosion | 3C |
| acetic anhydride | GESAMP/EHS Composite List - GESAMP Hazard Profiles | D1: skin irritation/corrosion | 3 |

**continued...**

## Section 12 - ECOLOGICAL INFORMATION

This material and its container must be disposed of as hazardous waste.

**Ecotoxicity**

| Ingredient | Persistence: Water/Soil | Persistence: Air | Bioaccumulation | Mobility |
|---|---|---|---|---|
| acetic acid glacial | LOW | No Data Available | LOW | HIGH |
| acetic anhydride | HIGH | No Data Available | LOW | HIGH |
| perchloric acid | No Data Available | No Data Available | LOW | No Data Available |

## Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Treat and neutralise at an effluent treatment plant.
- Use soda ash or slaked lime to neutralise.

## Section 14 - TRANSPORTATION INFORMATION


Labels Required: CORROSIVE,FLAMMABLE LIQUID

**HAZCHEM:**
•3W

Land Transport UNDG:

| | | | |
|---|---|---|---|
| Class or division: | 8 | Subsidiary risk: | 3 |
| UN No.: | 2920 | UN packing group: | II |

Shipping Name:CORROSIVE LIQUID, FLAMMABLE, N.O.S. (contains acetic acid glacial,acetic anhydride and perchloric acid)

**Air Transport IATA:**

| | | | |
|---|---|---|---|
| ICAO/IATA Class: | 8 | ICAO/IATA Subrisk: | 3 |
| UN/ID Number: | 2920 | Packing Group: | II |
| Special provisions: | None | | |

Shipping name:CORROSIVE LIQUID, FLAMMABLE, N.O.S.(contains acetic acid glacial,acetic anhydride and perchloric acid)

**Maritime Transport IMDG:**

| | | | |
|---|---|---|---|
| IMDG Class: | 8 | IMDG Subrisk: | 3 |
| UN Number: | 2920 | Packing Group: | II |
| EMS Number: | F- E, S- C | Special provisions: | 274 |
| Limited Quantities: | 1 L | | |

Shipping name:CORROSIVE LIQUID, FLAMMABLE, N.O.S.(contains acetic acid glacial,acetic anhydride and perchloric acid)

**continued...**

## Section 15 - REGULATORY INFORMATION

**REGULATIONS**

**Regulations for ingredients**

**acetic acid glacial (CAS: 64-19-7) is found on the following regulatory lists;**
"CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP","FisherTransport Information","GESAMP/EHS Composite List - GESAMP Hazard Profiles","IMO IBC Code Chapter 17: Summary of minimum requirements","IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk","India Chemical Accidents Rules - Schedule 2: Threshold Quantities","India Chemical Accidents Rules - Schedule 3: Named Chemicals", "India Manufacture, Storage and Import of Hazardous Chemical Rules - Schedule 1: List of Hazardous and Toxic Chemicals","India Manufacture, Storage and Import of Hazardous Chemical Rules - Schedule 2: Isolated storage at Installations other than those covered by Schedule 4","India Manufacture, Storage and Import of Hazardous Chemical Rules - Schedule 3: List of Hazardous Chemicals for Application of Rules 5 and 7 to 15","India Permissible Levels of Certain Chemical Substances in Work Environment", "International Council of Chemical Associations (ICCA) - High Production Volume List","International Fragrance Association (IFRA) Survey: Transparency List","International Numbering System for Food Additives","IOFI Global Reference List of Chemically Defined Substances","OECD List of High Production Volume (HPV) Chemicals","OSPAR National List of Candidates for Substitution – Norway", "Sigma-AldrichTransport Information"

**acetic anhydride (CAS: 108-24-7) is found on the following regulatory lists;**
"GESAMP/EHS Composite List - GESAMP Hazard Profiles","IMO IBC Code Chapter 17: Summary of minimum requirements","IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk","India Chemical Accidents Rules - Schedule 2: Threshold Quantities","India Chemical Accidents Rules - Schedule 3: Named Chemicals","India Hazardous Wastes (Management, Handling and Transboundary Movement) Rules - Schedule 2: List of Wastes Constituents with Concentration Limits","India Manufacture, Storage and Import of Hazardous Chemical Rules - Schedule 1: List of Hazardous and Toxic Chemicals","India Manufacture, Storage and Import of Hazardous Chemical Rules - Schedule 2: Isolated storage at Installations other than those covered by Schedule 4","India Manufacture, Storage and Import of Hazardous Chemical Rules - Schedule 3: List of Hazardous Chemicals for Application of Rules 5 and 7 to 15","OECD List of High Production Volume (HPV) Chemicals","Sigma-AldrichTransport Information","United Nations Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments","United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances - Table I","United Nations List of Precursors and Chemicals Frequently used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances Under International Control (Red List) - Table I"

**perchloric acid (CAS: 7601-90-3) is found on the following regulatory lists;**
"FisherTransport Information","India Hazardous Wastes (Management, Handling and Transboundary Movement) Rules - Schedule 2: List of Wastes Constituents with Concentration Limits","India Manufacture, Storage and Import of Hazardous Chemical Rules - Schedule 1: List of Hazardous and Toxic Chemicals","International Air Transport Association (IATA) Dangerous Goods Regulations", "International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft", "International Maritime Dangerous Goods Requirements (IMDG Code) - Goods Forbidden for Transport","OECD List of High Production Volume (HPV) Chemicals","Sigma-AldrichTransport Information"

**No data for EMD Chemicals Perchloric Acid 0.1N In Acetic Acid**

## Section 16 - OTHER INFORMATION

■ Classification of the preparation and its individual components has drawn on official and authoritative sources using available literature references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose.

Issue Date: 22-Jul-2015