



## SECTION 1 : Product and company identification

### 1.1 Product identifier

<b>Product name</b>	: NITROUS OXIDE , MEDICAL NITROUS OXIDE
<b>Trade Names</b>	: Nitrogen oxide, Nitrous oxide, Laughing gas, Hyponitrous acid anhydride, Dinitrogen monoxide, NITROGEN OXIDE (N2O) , FACTITIOUS AIR, Nitrogen monoxide Hyponitrous oxide
<b>Chemical formula</b>	: N <sub>2</sub> O
<b>Cas No.</b>	: 10024-79-2
<b>EC No.</b>	: 233-032-0

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

<b>Relevant identified uses</b>	: Industrial and professional. Perform risk assessment prior to use. Test gas / Calibration gas. Laboratory use. Chemical reaction / Synthesis. Chemical reaction / Synthesis. Aerosol propellant. Use for manufacture of electronic / photovoltaic components. Contact supplier for more information on uses.
<b>Uses advised against</b>	: Do not inhale product on purpose because of the risk of asphyxiation.

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

<b>Company identification</b>	: United Industrial Gases Co., Ltd. 79/1 Watchaklukya Road, Tambol Huaipong, Amphur Mueangrayong, Rayong 21150
<b>Tel</b>	: 0-3802-9754
<b>Emergency telephone number</b>	: (+66) 8117 27851 (+66) 8192 33172
<b>Fax</b>	: 0-3802-9758
<b>E-mail</b>	: uigrayong@gmail.com
<b>Supplier's details</b>	: United Industrial Gases Co., Ltd. (Head office) 29 / 3 Moo. 5, Bangna - Trad Road, T. Bangsaotong , A.Bangsaotong, Samutprakarn 10570
<b>Tel</b>	: 0-2338-1460
<b>Emergency telephone number</b>	: (+66) 8516 71888
<b>Fax</b>	: 0-2708-3873
<b>E-mail</b>	: uiggases@gmail.com

## SECTION 2 : Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008/EC (CLP/GHS)

<b>Physical hazards</b>	: Oxidising Gases, Category 1	H270
	: Contains gas under pressure	H280
	: May cause cryogenic burns or injury	

#### Classification acc. to Directive 67/548/EEC & 1999/45/EC:

Proposed by the industry

O; R8

Contact with combustible material may cause fire.

Asphyxiant in high concentrations

#### Risk advice to man and the environment

Refrigerated liquefied gas. Contact with product may cause cold burns or frostbite.

## 2.2 Label elements

Classification according to Regulation (EC) No. 1272/2008/EC (CLP/GHS)

Hazard pictograms :



GHS03      GHS04

Signal word : Danger

Hazard statements : H270 - May cause or intensify fire; oxidizer.  
H280 - Contains gas under pressure; may explode if heated  
H336 - May cause drowsiness or dizziness

### Precautionary statements (CLP)

Prevention : P220 - Keep away from combustible materials.

P244 - Keep valves and fittings free from oil and grease.

Response P304+P340+P315 -IF INHALATION : Remove person to fresh air and keep comfortable for breathing.  
Get immediate medical advice.

: P370 + P376 - In case of fire: stop leak if safe to do so.

P336 + P315 Thaw frosted parts lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

Storage : P403 - Store in a well-ventilated place.

2.3 Other hazards : Asphyxiant in high concentrations.

Contact with liquid may cause cold burns / frostbite.

## SECTION 3 : Composition / information on ingredients

### 3.1 Substance

Chemical Name	Product identifier	%	Classification according to Regulation(EC) No. 1272/2008
Nitrous oxide	( CAS No ) 10024-97-2 ( EC no ) 233-032-0 ( EC index no ) --- ( Registration-No. ) 01-2119970538-25	100	Ox. Gas 1, H270 Press. Gas ( Liq. ), H281

Contains no other components or impurities which will influence the classification of the product.

Full text of R-phrases see section 16. Full text of H-statements see section 16.

3.2 Mixture : Not applicable

## SECTION 4 : First aid measures

### 4.1 Description of first aid measures

**Inhalation** : Remove victim to uncontaminated area wearing self contained breathing apparatus.  
Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

**Skin contact** : In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing.  
Obtain medical assistance. For liquid spillage - flush with water for at least 15 minutes.

**Eye contact** : Immediately flush eyes thoroughly with water for at least 15 minutes.

**Ingestion** : Ingestion is not considered a potential route of exposure.

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

: In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness.

Victim may not be aware of asphyxiation.

In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination.

4.3 Indication of any immediate medical attention and special treatment needed : None.

## SECTION 5. Fire-fighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Water spray or fog.  
**Unsuitable extinguishing media** : Do not use water jet to extinguish.

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

- Fire hazard** : Oxidizing agent; vigorously accelerates combustion. Contact with flammable materials may cause fire or explosion.
- Explosion hazard** : If venting or leaking gas catches fire, do not extinguish flames. Vapors may spread from leak, creating an explosive reignition hazard. Vapors can be ignited by pilot lights, other flames smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point. Contact with combustible materials such as oil, grease, and other hydrocarbon products, especially in the presence of ignition sources such as pilot lights, other flames, smoking, sparks, heaters, electrical equipment, and static discharges may cause fire or explosion. Explosive atmospheres may linger. Before entering an area, especially a confined area, check the atmosphere with an appropriate device.
- Reactivity** : No reactivity hazard other than the effects described in sub-sections below.

### 5.3 Advice for fire-fighters

- Firefighting instruction** : DANGER! Extremely cold liquid and gas under pressure. Take care not to direct spray onto vents on top of container. Do not discharge sprays directly into liquid; cryogenic liquid can freeze water rapidly.  
 DANGER: High-pressure, oxidizing gas. Evacuate personnel to a safe area. Appropriate self-contained breathing apparatus may be required. Remove all sources of ignition. Vapor can spread from spill. Contact with flammable materials may cause fire or explosion. When containers have cooled, move them away from fire area if safe to do so. Before entering the area, especially a confined area, check the atmosphere with an appropriate device. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.

#### Special protective equipment for fire fighters

- : Wear gas tight chemically protective clothing in combination with self contained breathing apparatus. Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

#### Specific methods

- : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas containers to rupture. Cool endangered containers with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems.  
 Stop flow of product if safe to do so.  
 Use water spray or fog to knock down fire fumes if possible.

#### Special protective equipment for fire fighters

- : Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.  
 Standard EN 469 - Protective clothing for firefighters.  
 Standard - EN 659: Protective gloves for firefighters.

#### Other information

- : Containers are equipped with a pressure relief device. (Exceptions may exist where authorized by DOT.)  
 Oxidizing agent; vigorously accelerates combustion. Contact with flammable materials may cause fire or explosion.  
 Smoking, flames, and electric sparks are potential explosion hazards.

**SECTION : 6 Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

**General measures** : DANGER: High-pressure, oxidizing gas. Evacuate personnel to a safe area. Appropriate self-contained breathing apparatus may be required. Approach suspected leak area with caution. Remove all sources of ignition. Vapor can spread from spill. Contact with flammable materials may cause fire or explosion. Ventilate area or move container to a well-ventilated area. Before entering the area, especially a confined area, check the atmosphere with an appropriate device.

**6.2 Environmental precautions** : Prevent waste from contaminating the surrounding environment. Prevent soil and water pollution. Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

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

: Ventilate area.

**6.4 Reference to other sections** : See also sections 8 and 13.

**SECTION 7. Handling and storage**

**7.1 Precautions for safe handling** : Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g, wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

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

**Storage conditions** : Store only where temperature will not exceed 125°F (52°C). Post “No Smoking/No Open Flames” signs in storage and use areas. There must be no sources of ignition. Separate packages and protect against potential fire and/or explosion damage following appropriate codes and requirements (e.g, NFPA 30, NFPA 55, NFPA 70, and/or NFPA 221 in the U.S.) or according to requirements determined by the Authority Having Jurisdiction (AHJ). Always secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand when the container is not in use. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods. For other precautions in using this product, see section 16

**OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE:** When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

**Conditions to avoid** : Do not store in a confined space. Cryogenic containers are each equipped with a pressure relief device and a pressure-controlling device. Under normal conditions, these containers will periodically vent product. Use adequate pressure relief devices in systems and piping to prevent pressure buildup; entrapped liquid can generate extremely high pressures when vaporized by warming.

**7.3 Specific end use (s)** : None.

## SECTION 8 : Exposure controls / personal protection

### 8.1 Control parameters

NITROUS OXIDE, REFRIGERATED LIQUID (10024-97-2)		
ACGIH	ACGIH TLV-TWA (ppm)	50 ppm
USA OSHA	Not established	-

### 8.2 Exposure controls

#### 8.2.1 Appropriate engineering controls

- : Provide adequate general and local exhaust ventilation.
- Systems under pressure should be regularly checked for leakages.
- Ensure exposure is below occupational exposure limits ( where available ).
- Gas detectors should be used when oxidising gases may be released.
- Consider work permit system e.g. for maintenance activities.

#### 8.2.2 Individual protection measures, e.g. personal protective equipment

- : A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk.
- The following recommendations should be considered : PPE compliant to the recommended EN / ISO standards should be selected.

#### Eye / face protection

- : Wear safety glasses with side shields.
- Wear safety glasses with side shields or goggles when transfilling or breaking transfer connections. Standard EN 166 - Personal eye-protection.

#### Hand/Skine protection

- : Wear working gloves when handling gas containers.
- Standard EN 388 - Protective gloves against mechanical risk.

#### Respiratory protection

- : When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable).
- Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure. For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).

#### Thermal hazards protection

- : Wear cold insulating gloves when transfilling or breaking transfer connections.

#### Other

- : Consider the use of flame resistant safety clothing.
- Standard EN ISO 14116 - Limited flame spread materials.
- Wear safety shoes while handling containers.
- Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

#### 8.2.3 Environmental exposure controls

- : Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

## SECTION 9 : Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

#### Physical state

: Gas.

#### Colour

: Colourless.

#### Odour

: Sweetish. Poor warning properties at high concentrations.

#### Odour threshold

: Odour threshold is subjective and inadequate to warn of overexposure.

#### pH value

: Not applicable.

#### Molecular weight

: 44 g / mol

#### Melting point

: - 90°C

#### Freezing point

: No data available

#### Boiling point

: -88.5 °C

#### Flash point

: Not applicable for gases and gas mixtures.

#### Critical temperature [ °C ]

: 36.4 °C

#### Decomposition temperature

: 650 °C

Evaporation rate ( ether = 1 )	: Not applicable for gases and gas mixtures.
Flammability range	: Non flammable.
Vapour pressure [ 20 °C ]	: 50.8 bar(a)
Vapour pressure [ 50 °C ]	: Not applicable.
Relative density, gas ( air = 1 )	: 1.5
Relative density, liquid ( water = 1 )	: 1.2
Density	: 0.785 g/l (at 20°C)
Solubility in water	: 2.2 mg / l
Partition coefficient n-octanol / water [ log Kow ]	: 0.4
Auto-ignition temperature	: Not applicable.
Viscosity [ 20 °C ]	: Not applicable.
Explosive Properties	: Not applicable.
Oxidising Properties	: Oxidiser.
Coefficient of oxygen equivalency ( Ci )	: 0.6

## 9.2 Other information

Gas group	: Liquefied gas
Additional information	: Gas / vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

## SECTION 10 : Stability and reactivity

10.1 Reactivity	: No reactivity hazard other than the effects described in sub-sections below.
10.2 Chemical stability	: Stable under normal conditions. In the presence of catalysts (e.g. halogen products, mercury, nickel, platinum) the rate of decomposition increases and decomposition can occur at even lower temperatures. At temperatures over 575°C and at atmospheric pressure, nitrous oxide decomposes into nitrogen and oxygen. Pressurized nitrous oxide can also decompose equal or at temperatures greater than 300°C. Nitrous oxide dissociation is irreversible and exothermic, leading to a considerable rise in pressure.
10.3 Possibility of hazardous reactions	: Violently oxidises organic material.
10.4 Conditions to avoid	: Heat.
10.5 Incompatible materials	: Flammable materials, Hydrocarbons, Avoid oil, grease and all other combustible materials, Asphalt, Ethers, Alcohols, Acids, and Aldehydes. Alkali metals, Boron (B), tungsten carbide, and powdered aluminum.
10.6 Hazardous decomposition products	: Nitrous oxide decomposes explosively at 1202°F (650°C) into two parts Nitrogen and one part oxygen. In the presence of catalytic surfaces such as Silver, Platinum (Pt), Cobalt (Co), and Copper or nickel oxide, this reaction occurs at lower temperatures.

## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity	: Not classified
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#### NITROUS OXIDE, REFRIGERATED LIQUID (10024-97-2)

LC <sub>50</sub> inhalation rat (ppm)	> 250 ppm / 4h
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Skin corrosion / irritation	: Not classified.
Serious eye damage / irritation	: Not classified.
Respiratory or skin sensitisation	: Not classified.
Germ cell mutagenicity	: Not classified.
Carcinogenicity	: Not classified.
Reproductive toxicity	: Not classified.
Specific target organ toxicity (single exposure)	: Contain refrigerated gas; May cause cryogenic burns or injury

<b>Specific target organ toxicity</b> (repeated exposure)	: Not classified.
<b>Aspiration hazard</b>	: Not classified.
<b>Toxic for reproduction : unborn child</b>	: No known effects from this product.
<b>STOT - single exposure</b>	: No known effects from this product.
<b>STOT - repeated exposure</b>	: Classification criteria are not met. At low concentrations: Neurologic effect. Hemotoxic effect.
<b>Target organ(s) :</b>	: Erythrocytes. Kidneys. liver Central nervous system.
<b>Aspiration hazard</b>	: Not applicable for gases and gas mixtures.

## SECTION 12. Ecological information

### 12.1 Toxicity

**Assessment** : Classification criteria are not met.

### 12.2 Persistence and degradability

**Assessment** : Not applicable for inorganic gases. Study scientifically unjustified.

### 12.3 Bioaccumulative potential

**Assessment** : Product / Substance is a gas. Not expected to bioaccumulate due to the low log Kow ( log Kow < 4 ). Refer to section 9. Partition into water is unlikely.

### 12.4 Mobility in soil

**Assessment** : Product / Substance is a gas. Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.

### 12.5 Results of PBT and vPvB assessment

**Assessment** : Not classified as PBT or vPvB.

### 12.6 Other adverse effects

**Effect on ozone layer** : None.

**Global warming potential [ CO<sub>2</sub> = 1 ]** : 298

**Effect on the global warming** : When discharged in large quantities may contribute to the greenhouse effect.  
Contains greenhouse gas(es) not covered by Regulation (EC) 842 / 2006.

## SECTION 13 : Disposal considerations

### 13.1 Waste treatment methods

**Waste treatment methods** : Do not discharge into any place where its accumulation could be dangerous.  
Contact supplier if guidance is required.

**Waste disposal recommendations** : Do not attempt to dispose of residual or unused quantities. Return container to supplier.

## SECTION : 14 Transport information

### 14.1 In accordance with DOT

<b>Transport document description</b>	: Nitrous oxide
<b>UN number</b>	: UN 1070
<b>Proper shipping name</b>	: Nitrous oxide
<b>Class (DOT)</b>	: 2.2 - Class 2.2 - Non-flammable compressed gas
<b>Hazard Labels (DOT)</b>	: 2.2 - Non-flammable gas 5.1 - Oxidizer



**14.2 Transport by road / rail ( ADG )**

**Class** : 2  
**Hazchemcode** : 2P  
**Hazard identification number** : -  
**Tunnel Restriction** : C / E - Tank carriage : Passage forbidden through tunnels of category C, D and E. Other carriage : Passage forbidden through tunnels of category E

**14.3 Transport by air ( ICAO-TI / IATA-DGR )**

**Class / Div. ( Sub. risk(s) )** : 2.2 (5.1)  
**Transport by sea ( IMDG )**  
**Class / Div. (Sub. risk(s))** : 2.2 (5.1)  
**Emergency Schedule ( EmS ) - Fire** : F-C  
**Emergency Schedule ( EmS ) - Spillage** : S-W

**14.4 Packing group**

**Transport by road / rail ( ADR / RID )** : Not applicable  
**Transport by air ( ICAO-TI / IATA-DGR )** : Not applicable  
**Transport by sea ( IMDG )** : Not applicable

**14.5 Environmental hazards**

**Transport by road / rail ( ADR / RID )** : None.  
**Transport by air ( ICAO-TI / IATA-DGR )** : None.  
**Transport by sea ( IMDG )** : None.

**14.6 Special precautions for user****Packing Instruction(s)**

**Transport by road/rail ( ADR / RID )** : P200

**Transport by air ( ICAO-TI / IATA-DGR )**

**Passenger and Cargo Aircraft** : 200

**Cargo Aircraft only** : 200

**Transport by sea ( IMDG )** : P200

**Special transport precautions** : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.  
 Before transporting product containers:

- Ensure there is adequate ventilation.
- Ensure that containers are firmly secured.
- Ensure cylinder valve is closed and not leaking.
- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
- Ensure valve protection device (where provided) is correctly fitted.

**HAZCHEMCODE** : 2P

**14.7 Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC Code** : Not applicable

**SECTION : 15 Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****NITROUS OXIDE, REFRIGERATED LIQUID (10024-97-2)****Listed on the United States TSCA (Toxic Substances Control Act) inventory**

SARA Section 311/312 Hazard Classe : Delayed (chronic) health hazard  
 Fire hazard  
 Immediate (acute) health hazard  
 Sudden release of pressure hazard

All components of this product are listed on the Toxic Substances Control Act (TSCA) (TSCA) inventory.

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.



**International regulations****CANADA****NITROUS OXIDE,REFRIGERATED LIQUID (10024-97-2)**

: Listed on the Canadian DSL (Domestic Substances List)

**EU-Regulation****NITROUS OXIDE,REFRIGERATED LIQUID (10024-97-2)**: Listed on the EEC inventory EINECS  
(European Inventory of Existing Commercial Chemical Substances)**National regulations****NITROUS OXIDE,REFRIGERATED LIQUID (10024-97-2)**: Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on the Korean ECL (Existing Chemicals List)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on the Canadian IDL (Ingredient Disclosure List)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)**15.2 Chemical safety assessment**

: A CSA has been carried out.

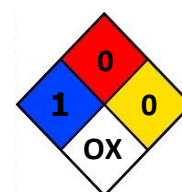
**SECTION : 16 Other information****Other information**

: When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product.

United industrial gases co.,ltd asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information,(2)furnish this information to each purchaser purchaser of the product, (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

**NFPA health hazard**: 1 - Substance not considered toxic under OSHA's Hazard  
Communication Standard. Under emergency conditions, this  
substance can cause significant irritation.**NFPA fire hazard**

: 0 - Materials that will not burn.

**NFPA reactivity**: 0 - Normally stable, even under fire exposure conditions,  
and are not reactive with water.**NFPA specific hazard**: OX - This denotes an oxidizer, a chemical which can  
greatly increase the rate of combustion/fire.**DISCLAIMER OF LIABILITY**

: Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out. Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.