

## Pola Night 16% Carbamide Peroxide Gel

### **SDI Limited**

Version No: 7.1.1.1 Safety Data Sheet (Conforms to Regulations (EC) No 2015/830) Issue Date: 08/04/2016 Print Date: 12/04/2016 Initial Date: Not Available L.REACH.IRL.EN

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### 1.1.Product Identifier

Product name	Pola Night 16% Carbamide Peroxide Gel
Synonyms	Not Available
Other means of identification	Not Available

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

Relevant identified uses	To remove discoloration of teeth under the supervision of a dentist.
Uses advised against	Not Applicable

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

Registered company name	SDI Limited	SDI Brazil Industria E Comercio Ltda	SDI Germany GmbH		
Address	3-15 Brunsdon Street VIC Bayswater 3153 Australia	Rua Dr. Virgilio de Carvalho Pinto, 612 São Paulo CEP 05415-020 Brazil	Hansestrasse 85 Cologne D-51149 Germany		
Telephone	+61 3 8727 7111 (Business Hours)	+55 11 3092 7100	+49 0 2203 9255 0		
Fax	+61 3 8727 7222 +55 11 3092 7101 +49 0 2203 9255 200				
Website	www.sdi.com.au	www.sdi.com.au	www.sdi.com.au		
Email	info@sdi.com.au	brasil@sdi.com.au	germany@sdi.com.au		
Registered company name	SDI (North America) Inc.				
Address	1279 Hamilton Parkway IL Itasca 60143 United States				
Telephone	+1 630 361 9200 (Business hours)				
Fax	Not Available				
Website	Not Available				
Email	USA.Canada@sdi.com.au				

### 1.4. Emergency telephone number

Association / Organisation	SDI Limited	Not Available	Not Available		
Emergency telephone numbers	+61 3 8727 7111	Not Available	Not Available		
Other emergency telephone numbers	ray.cahill@sdi.com.au	Not Available	Not Available		
Association / Organisation	Not Available				
Emergency telephone numbers	+61 3 8727 7111				
Other emergency telephone numbers	Not Available				

## **SECTION 2 HAZARDS IDENTIFICATION**

### 2.1. Classification of the substance or mixture

Considered a dangerous mixture according to directive 1999/45/EC, Reg. (EC) No 1272/2008 (if applicable) and their amendments. Not classified as Dangerous Goods for transport purposes.

DSD classification	In case of mixtures, classification has been prepared by following DPD (Directive 1999/45/EC) and CLP Regulation (EC) No 1272/2008 regulations
DPD classification <sup>[1]</sup>	R36 Irritating to eyes.
Legend:	1. Classification by vendor; 2. Classification drawn from EC Directive 67/548/EEC - Annex I; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

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Classification according to regulation (EC) No 1272/2008 [CLP] [1]

Eye Irritation Category 2

Legend:

1. Classification by vendor; 2. Classification drawn from EC Directive 67/548/EEC - Annex I; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

### 2.2. Label elements

CLP label elements



SIGNAL WORD

WARNING

## Hazard statement(s)

H319

Causes serious eye irritation.

### Supplementary statement(s)

Not Applicable

### Precautionary statement(s) Prevention

P280

Wear protective gloves/protective clothing/eye protection/face protection.

### Precautionary statement(s) Response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.

## Precautionary statement(s) Storage

Not Applicable

### Precautionary statement(s) Disposal

Not Applicable

### 2.3. Other hazards

Cumulative effects may result following exposure\*.

May produce skin discomfort\*.

REACh - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

### **SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**

### 3.1.Substances

See 'Composition on ingredients' in Section 3.2

### 3.2.Mixtures

1.CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classification according to directive 67/548/EEC [DSD]	Classification according to regulation (EC) No 1272/2008 [CLP]
1.124-43-6 2.204-701-4 3.Not Available 4.Not Available	10-16	urea hydrogen peroxide	R8, R20/22, R34, R41 <sup>[1]</sup>	Oxidizing Solid Category 3, Metal Corrosion Category 1, Acute Toxicity (Oral) Category 4, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 1B, Serious Eye Damage Category 1; H272, H290, H302, H332, H314, H318 [1]
		equivalent to:		
1.7722-84-1 2.231-765-0 3.008-003-00-9 4.01-2119485845-22-XXXX	4-6	hydrogen peroxide	R5, R8, R20/22, R35 <sup>[2]</sup>	Oxidizing Liquid Category 1, Acute Toxicity (Inhalation) Category 4, Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 1A; H271, H332, H302, H314 [3]
Legend:		ion by vendor; 2. C ion drawn from C&		tive 67/548/EEC - Annex I ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

## **SECTION 4 FIRST AID MEASURES**

## 4.1. Description of first aid measures

If skin contact occurs:

- ► Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

### General

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.

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	<ul> <li>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> <li>If furnes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>Other measures are usually unnecessary.</li> <li>If swallowed do NOT induce vomiting.</li> <li>If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>Observe the patient carefully.</li> <li>Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>Seek medical advice.</li> </ul>
Eye Contact	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.  Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs:  Immediately remove all contaminated clothing, including footwear.  Flush skin and hair with running water (and soap if available).  Seek medical attention in event of irritation.
Inhalation	<ul> <li>If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>Other measures are usually unnecessary.</li> </ul>
Ingestion	<ul> <li>If swallowed do NOT induce vomiting.</li> <li>If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>Observe the patient carefully.</li> <li>Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>Seek medical advice.</li> </ul>

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

See Section 11

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## **SECTION 5 FIREFIGHTING MEASURES**

## 5.1. Extinguishing media

- ► Foam.
- Dry chemical powder.
- ► BCF (where regulations permit).
- Carbon dioxide.
- ▶ Water spray or fog Large fires only.

### 5.2. Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
5.3. Advice for firefighters	
Fire Fighting	<ul> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>Wear breathing apparatus plus protective gloves in the event of a fire.</li> <li>Prevent, by any means available, spillage from entering drains or water courses.</li> <li>Use fire fighting procedures suitable for surrounding area.</li> <li>DO NOT approach containers suspected to be hot.</li> <li>Cool fire exposed containers with water spray from a protected location.</li> <li>If safe to do so, remove containers from path of fire.</li> <li>Equipment should be thoroughly decontaminated after use.</li> </ul>
Fire/Explosion Hazard	<ul> <li>Non combustible.</li> <li>Not considered a significant fire risk, however containers may burn.</li> <li>Decomposition may produce toxic fumes of; nitrogen oxides (NOx)May emit poisonous fumes. May emit corrosive fumes.</li> </ul>

## **SECTION 6 ACCIDENTAL RELEASE MEASURES**

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

See section 8

### 6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up		
Minor Spills	Clean up all spills immediately. Avoid contact with skin and eyes. Wear impervious gloves and safety goggles. Trowel up/scrape up. Place spilled material in clean, dry, sealed container. Flush spill area with water.	

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#### Minor hazard.

- Clear area of personnel.
- ► Alert Fire Brigade and tell them location and nature of hazard.
- Control personal contact with the substance, by using protective equipment as required.
- ▶ Prevent spillage from entering drains or water ways.
- Contain spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal.
- Wash area and prevent runoff into drains or waterways.
- ▶ If contamination of drains or waterways occurs, advise emergency services.

### 6.4. Reference to other sections

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

### **SECTION 7 HANDLING AND STORAGE**

**Major Spills** 

### 7.1. Precautions for safe handling

Safe handling

- ▶ Avoid all personal contact, including inhalation.
  - ▶ Wear protective clothing when risk of exposure occurs.
  - ▶ Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- ▶ DO NOT enter confined spaces until atmosphere has been checked.
- ▶ DO NOT allow material to contact humans, exposed food or food utensils.
- ▶ Avoid contact with incompatible materials.
  - When handling, DO NOT eat, drink or smoke
  - ▶ Keep containers securely sealed when not in use.
  - Avoid physical damage to containers.
  - Always wash hands with soap and water after handling.
  - Work clothes should be laundered separately. Launder contaminated clothing before re-use.
  - Use good occupational work practice
  - Observe manufacturer's storage and handling recommendations contained within this SDS.
  - ▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

## Fire and explosion

protection

Other information

See section 5

Store in a dry and well ventilated-area, away from heat and sunlight. Do not store in direct sunlight.

Store between 2 and 25 deg C.

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

Suitable container	► DO NOT repack. Use containers supplied by manufacturer only.
Storage incompatibility	<ul> <li>Avoid storage with reducing agents.</li> <li>Avoid strong bases.</li> </ul>

### 7.3. Specific end use(s)

See section 1.2

### **SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

### 8.1. Control parameters

DERIVED NO EFFECT LEVEL (DNEL)

Not Available

PREDICTED NO EFFECT LEVEL (PNEC)

Not Available

## OCCUPATIONAL EXPOSURE LIMITS (OEL)

### INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Ireland Occupational Exposure Limits	hydrogen peroxide	Hydrogen peroxide	1.5 mg/m3 / 1 ppm	3 mg/m3 / 2 ppm	Not Available	Not Available

## **EMERGENCY LIMITS**

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
urea hydrogen peroxide	Urea peroxide; (Urea hydrogen peroxide)	1.2 mg/m3	13 mg/m3	79 mg/m3
hydrogen peroxide	Hydrogen peroxide	Not Available	Not Available	Not Available
hydrogen peroxide	Hydrogen peroxide - 30%	33 ppm	170 ppm	330 ppm

Ingredient	Original IDLH	Revised IDLH
urea hydrogen peroxide	Not Available	Not Available
hydrogen peroxide	75 ppm	75 [Unch] ppm

### MATERIAL DATA

## 8.2. Exposure controls

8.2.1. Appropriate 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 Version No: **7.1.1.1** Page **5** of **11** Issue Date: **08/04/2016** 

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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. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Employers may need to use multiple types of controls to prevent employee overexposure.

General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in specific circumstances. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

#### Type of Contaminant: Air Speed: 0.25-0.5 m/s (50-100 solvent, vapours, degreasing etc., evaporating from tank (in still air). f/min) 0.5-1 m/s (100-200 aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation) f/min.) direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into 1-2.5 m/s (200-500 f/min.) zone of rapid air motion) grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid 2.5-10 m/s (500-2000 f/min.) air motion).

### Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range	
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents	
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity	
3: Intermittent, low production.	3: High production, heavy use	
4: Large hood or large air mass in motion	4: Small hood-local control only	

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

### 8.2.2. Personal protection

engineering controls











### Eye and face protection

Safety glasses with side shields.

► Chemical goggles

Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses 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]

### Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent] Skin protection See Hand protection below ▶ Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber Hands/feet protection Rubber Gloves **Body protection** See Other protection below Overalls. P.V.C. apron. Other protection Barrier cream. Skin cleansing cream. Eve wash unit. Thermal hazards Not Available

### Respiratory protection

Type B Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	B-AUS	-	B-PAPR-AUS / Class 1
up to 50 x ES	-	B-AUS / Class 1	-
up to 100 x ES	-	B-2	B-PAPR-2 ^

### ^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

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See section 12

## **SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

### 9.1. Information on basic physical and chemical properties

Appearance	Clear gel with spearmint odour, mixes with water.		
Physical state	Gel	Relative density (Water = 1)	1.1
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	5.9-6.9	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

### 9.2. Other information

Not Available

## **SECTION 10 STABILITY AND REACTIVITY**

10.1.Reactivity	See section 7.2
10.2.Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
10.3. Possibility of hazardous reactions	See section 7.2
10.4. Conditions to avoid	See section 7.2
10.5. Incompatible materials	See section 7.2
10.6. Hazardous decomposition products	See section 5.3

## **SECTION 11 TOXICOLOGICAL INFORMATION**

## 11.1. Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of th Nevertheless, good hygiene practice requires that exposure be kept to a minin	, , , , , , , , , , , , , , , , , , , ,	
Ingestion	The material has <b>NOT</b> been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.		
Skin Contact	Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.  Open cuts, abraded or irritated skin should not be exposed to this material  Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin profer to the use of the material and ensure that any external damage is suitably protected.		
Еуе	Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.  Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.		
Chronic	Limited evidence suggests that repeated or long-term occupational exposure r	nay produce cumulative health effects involving organs or biochemical systems.	
Dala Nimbi 40% Canhamida	TOXICITY	IRRITATION	
Pola Night 16% Carbamide Peroxide Gel	Not Available	Not Available	

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Legend:

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.\* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

# URFA HYDROGEN

HYDROGEN PEROXIDE

PEROXIDE

No significant acute toxicological data identified in literature search.

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production. No chronic human exposure data is available

No significant acute toxicological data identified in literature search.

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production. For hydrogen peroxide:

Hazard increases with peroxide concentration, high concentrations contain an additive stabiliser.

#### **Pharmacokinetics**

Hydrogen peroxide is a normal product of metabolism. It is readily decomposed by catalase in normal cells. In experimental animals exposed to hydrogen peroxide, target organs affected include the lungs, intestine, thymus, liver, and kidney, suggesting its distribution to those sites.

Hydrogen peroxide has been detected in breath.

- Absorption: Hydrogen peroxide is decomposed in the bowel before absorption. When applied to tissue, solutions of hydrogen peroxide have poor penetrability.
- ▶ Distribution Hydrogen peroxide is produced metabolically in intact cells and tissues. It is formed by reduction of oxygen either directly in a two-electron transfer reaction, often catalysed by flavoproteins, or by an initial one-electron step to O2 followed by dismutation to hydrogen peroxide.
- Hydrogen peroxide has been detected in serum and in intact liver. based on the results of toxicity studies, the lungs, intestine, thymus, liver, and kidney may be distribution sites. In rabbits and cats that died after intravenous administration of hydrogen peroxide, the lungs were pale and emphysematous. Following intraperitoneal injection of hydrogen peroxide in mice, pyknotic nuclei were induced in the intestine and thymus (IARC 1985). Degeneration of hepatic and renal tubular epithelial tissue was observed following oral administration of hydrogen peroxide to mice.
- Metabolism Glutathione peroxidase, responsible for decomposing hydrogen peroxide, is present in normal human tissues (IARC 1985). When hydrogen peroxide comes in contact with catalase, an enzyme found in blood and most tissues, it rapidly decomposes into oxygen and water.
- ► Excretion Hydrogen peroxide has been detected in human breath at levels ranging from 1.0+/-.5 g/L to 0.34+/-0.17 g/L.

### Carcinogenicity

Gastric and duodenal lesions including adenomas, carcinomas, and adenocarcinomas have been observed in mice treated orally with hydrogen peroxide.

Marked strain differences in the incidence of tumors have been observed. Papilloma development has been observed in mice treated by dermal application.

Genotoxicity

Hydrogen peroxide induced DNA damage, sister chromatid exchanges and chromosomal aberrations in mammalian cells *in vitro*. Hydrogen peroxide induced DNA damage in bacteria (*E. coli*), and was mutagenic to bacteria (*Salmonella typhimurium*) and the fungi, *Neurospora crassa* and *Aspergillis chevallieri*, but not to *Streptomyces griseoflavus*. It was not mutagenic to *Drosophila melanogaster* or to mammalian cells *in vitro*.

### **Developmental Toxicity**

Malformations have been observed in chicken embryos treated with hydrogen peroxide, but experiments with mice and rats have been negative. Female rats that received 0.45% hydrogen peroxide (equivalent to approximately 630 mg/kg/day)7 as the sole drinking fluid for five weeks produced normal litters when mated with untreated males.

Doses of 1.4 to 11 mol/egg hydrogen peroxide (purity 30%) dissolved in water were injected into the airspace of groups of 20-30 white leghorn chicken eggs on day 3 of incubation.

Embryos were examined on day 14. The incidence of embryonic deaths and malformations was dose-related and detected at doses of 2.8 mol/egg and above. The combined ED50 was 2.7 mol/egg.

### Reproductive Toxicity

A 1% solution of hydrogen peroxide (equivalent to 1900 mg/kg/day) given as the sole drinking fluid to three-month-old male mice for 7-28 days did not cause infertility.

The substance is classified by IARC as Group 3:

**NOT** classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

Acute Toxicity	0	Carcinogenicity	0
Skin Irritation/Corrosion	0	Reproductivity	0
Serious Eye Damage/Irritation	<b>✓</b>	STOT - Single Exposure	0
Respiratory or Skin sensitisation	0	STOT - Repeated Exposure	0
Mutagenicity	0	Aspiration Hazard	0

Legenda

🗶 – Data available but does not fill the criteria for classification

— Data required to make classification available

Data Not Available to make classification

### **SECTION 12 ECOLOGICAL INFORMATION**

### 12.1. Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
hydrogen peroxide	LC50	96	Fish	0.020mg/L	3
hydrogen peroxide	EC50	3	Algae or other aquatic plants	0.27mg/L	4

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EC50 48 Crustacea 2.32mg/L hydrogen peroxide hydrogen peroxide EC50 72 Algae or other aquatic plants 0.71mg/L 4 NOEC 192 0.028mg/L 4 hydrogen peroxide Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 -Legend: Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) -Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

## DO NOT discharge into sewer or waterways.

### 12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
hydrogen peroxide	LOW	LOW

### 12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
hydrogen peroxide	LOW (LogKOW = -1.571)

### 12.4. Mobility in soil

Ingredient	Mobility
hydrogen peroxide	LOW (KOC = 14.3)

### 12.5.Results of PBT and vPvB assessment

	P	В	Т
Relevant available data	Not Available	Not Available	Not Available
PBT Criteria fulfilled?	Not Available	Not Available	Not Available

### 12.6. Other adverse effects

No data available

## **SECTION 13 DISPOSAL CONSIDERATIONS**

### 13.1. Waste treatment methods

Product / Packaging disposal	Consult State Land Waste Management Authority for disposal. Bury residue in an authorised landfill.
Waste treatment options	Not Available
Sewage disposal options	Not Available

### **SECTION 14 TRANSPORT INFORMATION**

14.2.Packing group

## Labels Required

Marine Pollutant	NO	
Land transport (ADR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS		
14.1.UN number	Not Applicable	

14.3.UN proper shipping name	Not Applicable		
14.4.Environmental hazard	Not Applicable		
14.5. Transport hazard class(es)	Class Not Applical		
	Hazard identification (Ke	emler) Not Applicable	
	Classification code	Not Applicable	
14.6. Special precautions for user	Hazard Label	Not Applicable	
455.	Special provisions	Not Applicable	
	Limited quantity	Not Applicable	

Not Applicable

## Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. UN number	Not Applicable
14.2. Packing group	Not Applicable
14.3. UN proper shipping name	Not Applicable
14.4. Environmental hazard	Not Applicable

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ICAO/IATA Class Not Applicable 14.5. Transport hazard ICAO / IATA Subrisk Not Applicable class(es) **ERG** Code Not Applicable Not Applicable Special provisions Cargo Only Packing Instructions Not Applicable Cargo Only Maximum Qty / Pack Not Applicable 14.6. Special precautions for Passenger and Cargo Packing Instructions Not Applicable Passenger and Cargo Maximum Qty / Pack Not Applicable Passenger and Cargo Limited Quantity Packing Instructions Not Applicable Passenger and Cargo Limited Maximum Qty / Pack Not Applicable

### Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. UN number	Not Applicable
14.2. Packing group	Not Applicable
14.3. UN proper shipping name	Not Applicable
14.4. Environmental hazard	Not Applicable
14.5. Transport hazard class(es)	IMDG Class Not Applicable  IMDG Subrisk Not Applicable
14.6. Special precautions for user	EMS Number Not Applicable Special provisions Not Applicable Limited Quantities Not Applicable

### Inland waterways transport (ADN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.1. UN number	Not Applicable
14.2. Packing group	Not Applicable
14.3. UN proper shipping name	Not Applicable
14.4. Environmental hazard	Not Applicable
14.5. Transport hazard class(es)	Not Applicable Not Applicable
14.6. Special precautions for user	Classification code Not Applicable Special provisions Not Applicable Limited quantity Not Applicable Equipment required Not Applicable Fire cones number Not Applicable

## Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

### **SECTION 15 REGULATORY INFORMATION**

### 15.1. Safety, health and environmental regulations / legislation specific for the substance or mixture

## UREA HYDROGEN PEROXIDE(124-43-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

European Customs Inventory of Chemical Substances ECICS (English)

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)
(English)

### HYDROGEN PEROXIDE(7722-84-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles European Customs Inventory of Chemical Substances ECICS (English)

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31

European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List

Passenger and Cargo Aircraft

Ireland Occupational Exposure Limits

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : 67/548/EEC, 1999/45/EC, 98/24/EC, 92/85/EC, 94/33/EC, 91/689/EEC, 1999/13/EC, Commission Regulation (EU) 2015/830, Regulation (EC) No 1272/2008 and their amendments as well as the following British legislation: - The Control of Substances Hazardous to Health Regulations (COSHH) 2002 - COSHH Essentials - The Management of Health and Safety at Work Regulations 1999

### 15.2. Chemical safety assessment

For further information please look at the Chemical Safety Assessment and Exposure Scenarios prepared by your Supply Chain if available.

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### **ECHA SUMMARY**

Ingredient	CAS number	Index No		ECHA Dossier	
urea hydrogen peroxide	124-43-6	Not Available		Not Available	
Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)		Pictograms Si Code(s)	gnal Word	Hazard Statement Code(s)
1	Ox. Sol. 3, Skin Corr. 1B		GHS05, GHS03	B, Dgr	H272, H314
2	Ox. Sol. 3, Skin Corr. 1B, Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, STOT SE 3, Ox. Sol. 2		GHS05, GHS03	3, Dgr	H272, H314, H302, H318, H335

 $Harmonisation\ Code\ 1 = The\ most\ prevalent\ classification.\ Harmonisation\ Code\ 2 = The\ most\ severe\ classification.$ 

Ingredient	CAS number	Index No	ECHA Dossier
hydrogen peroxide	7722-84-1	008-003-00-9	01-2119485845-22-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Ox. Liq. 1, Acute Tox. 4, Skin Corr. 1A	GHS07, GHS05, GHS03, Dgr	H271, H302, H314, H332
2	Ox. Liq. 1, Acute Tox. 4, Skin Corr. 1A, Eye Dam. 1, STOT SE 3, Aquatic Chronic 3, Ox. Liq. 2, Acute Tox. 3, Flam. Liq. 2, Skin Corr. 1B, Acute Tox. 2, Met. Corr. 1, Aquatic Chronic 2, Not Classified, Skin Irrit. 2, Eye Irrit. 2	GHS05, GHS03, Dgr, GHS02, GHS06, GHS09, Wng	H271, H314, H335, H318, H225, H301, H330, H290

 $Harmonisation \ \ Code\ 1 = The\ most\ prevalent\ classification.\ Harmonisation\ \ Code\ 2 = The\ most\ severe\ classification.$ 

National Inventory	Status
Australia - AICS	Y
Canada - DSL	N (urea hydrogen peroxide)
Canada - NDSL	N (hydrogen peroxide)
China - IECSC	Υ
Europe - EINEC / ELINCS / NLP	Υ
Japan - ENCS	N (urea hydrogen peroxide)
Korea - KECI	Y
New Zealand - NZIoC	Υ
Philippines - PICCS	Υ
USA - TSCA	Υ
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

## **SECTION 16 OTHER INFORMATION**

### Full text Risk and Hazard codes

H225	Highly flammable liquid and vapour.
H271	May cause fire or explosion; strong oxidiser.
H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
R20/22	Harmful by inhalation and if swallowed.
R34	Causes burns.
R35	Causes severe burns.
R41	Risk of serious damage to eyes.
R5	Heating may cause an explosion.
R8	Contact with combustible material may cause fire.

Other information

DSD / DPD label elements

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Relevant risk statements are found in section 2.1

Indication(s) of danger	Xi
SAFETY ADVICE	
S02	Keep out of reach of children.
S23	Do not breathe gas/fumes/vapour/spray.
S26	In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
S35	This material and its container must be disposed of in a safe way.
S39	Wear eye/face protection.
S40	To clean the floor and all objects contaminated by this material, use water.
S46	If swallowed, seek medical advice immediately and show this container or label.
S56	Dispose of this material and its container at hazardous or special waste collection point.
S64	If swallowed, rinse mouth with water (only if the person is conscious).

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by SDI Limited using available literature references.

The 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. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 166 Personal eye-protection

EN 340 Protective clothing

EN 374 Protective gloves against chemicals and micro-organisms

EN 13832 Footwear protecting against chemicals

EN 133 Respiratory protective devices

### **Definitions and abbreviations**

PC — TWA: Permissible Concentration-Time Weighted Average PC — STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit $_{\circ}$ 

IDLH: Immediately Dangerous to Life or Health Concentrations

OSF: Odour Safety Factor

NOAEL: No Observed Adverse Effect Level LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value LOD: Limit Of Detection OTV: Odour Threshold Value

BCF: BioConcentration Factors BEI: Biological Exposure Index

The information contained in the Safety Data Sheet is based on data considered to be accurate, however, no warranty is expressed or implied regarding the accuracy of the data or the results to be obtained from the use thereof.

### Other information:

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