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#### **SECTION 1. IDENTIFICATION**

**Product identifier** 

Trade name : PULSAR PLUS CAL HYPO BRIQUETTES FOR

COMMERCIAL SWIMMING POOL USE

Recommended use of the chemical and restrictions on use

Use of the Substance/Mixture : Pesticide

| Details of the supplier of the safety data sheet Innovative Water Care, LLC 1400 Bluegrass Lakes Parkway | Emergency telephone number<br>1-800-654-6911 (Outside the USA:1-423-780-<br>2970) |
|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Alpharetta, GA 30004<br>United States of America (USA)                                                   | Product Information<br>1-800-511-6737 (Outside the USA:1-423-780-<br>2347)        |
| EHSProductSafetyTeam@solenis.com                                                                         |                                                                                   |

## **SECTION 2. HAZARDS IDENTIFICATION**

# GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Oxidizing solids : Category 2

Acute toxicity (Oral) : Category 4

Skin corrosion : Category 1B

Serious eye damage : Category 1

Specific target organ toxicity

- single exposure

: Category 3 (Respiratory system)

**GHS** label elements

Hazard pictograms







Signal word : Danger

Hazard statements : H272 May intensify fire; oxidizer.

H302 Harmful if swallowed.

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H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

#### Precautionary statements

#### Prevention:

P210 Keep away from heat.

P220 Keep/ Store away from clothing/ combustible materials.

P221 Take any precaution to avoid mixing with combustibles.

P260 Do not breathe dust.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

#### Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON

CENTER/ doctor if you feel unwell. Rinse mouth.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P363 Wash contaminated clothing before reuse.

P370 + P378 In case of fire: Use water spray to extinguish.

#### Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

#### Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

# Other hazards

None known.

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

Substance / Mixture : Mixture

## Components

| Chemical name        | CAS-No.   | Classification     | Concentration (%) |
|----------------------|-----------|--------------------|-------------------|
| CALCIUM HYPOCHLORITE | 7778-54-3 | Ox. Sol. 2; H272   | >= 60 - < 70      |
|                      |           | Acute Tox. 4; H302 |                   |

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|                   |            | Skin Corr. 1B; H314<br>Eye Dam. 1; H318<br>STOT SE 3; H335 |              |
|-------------------|------------|------------------------------------------------------------|--------------|
| CALCIUM HYDROXIDE | 1305-62-0  | Skin Irrit. 2; H315<br>Eye Dam. 1; H318<br>STOT SE 3; H335 | >= 1.5 - < 5 |
| CALCIUM CHLORIDE  | 10043-52-4 | Eye Irrit. 2A; H319                                        | >= 1.5 - < 5 |
| CALCIUM CARBONATE | 471-34-1   |                                                            | >= 1.5 - < 5 |

Actual concentration is withheld as a trade secret

#### **SECTION 4. FIRST AID MEASURES**

General advice : Move out of dangerous area.

Consult a physician.

Show this safety data sheet to the doctor in attendance.

Do not leave the victim unattended.

If inhaled : Move to fresh air.

Keep patient warm and at rest.

If unconscious, place in recovery position and seek medical

advice.

If symptoms persist, call a physician.

In case of skin contact : If on skin, rinse well with water.

Wash contaminated clothing before re-use.

If on clothes, remove clothes.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty

of water and seek medical advice.

Continue rinsing eyes during transport to hospital.

Remove contact lenses. Protect unharmed eye.

If swallowed : Get medical attention immediately.

Do NOT induce vomiting. Rinse mouth with water.

Do not give milk or alcoholic beverages.

Never give anything by mouth to an unconscious person.

If symptoms persist, call a physician.

Most important symptoms and effects, both acute and

delayed

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through

the skin may include:

stomach or intestinal upset (nausea, vomiting, diarrhea)

irritation (nose, throat, airways)

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discomfort in the chest

bronchitis Headache

Shortness of breath

lung edema (fluid buildup in the lung tissue)

Pulmonary edema may be delayed.

Harmful if swallowed.

Causes serious eye damage. May cause respiratory irritation.

Causes severe burns.

Probable mucosal damage may contraindicate the use of Notes to physician

gastric lavage.

#### **SECTION 5. FIREFIGHTING MEASURES**

Suitable extinguishing media : Water

Unsuitable extinguishing

media

: Dry extinguishers containing ammonium compounds.

Specific hazards during

firefighting

: May intensify fire, oxidizer.

Do not allow run-off from fire fighting to enter drains or water

courses.

Hazardous combustion

products

: Chlorine

Further information : Use water to cool containers exposed to fire.

for firefighters

Special protective equipment : In the event of fire, wear self-contained breathing apparatus.

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

: Use personal protective equipment.

Ensure adequate ventilation.

Avoid dust formation. Avoid breathing dust.

Persons not wearing protective equipment should be excluded

from area of spill until clean-up has been completed.

Comply with all applicable federal, state, and local regulations.

**Environmental precautions** Prevent product from entering drains.

Prevent further leakage or spillage if safe to do so.

If the product contaminates rivers and lakes or drains inform

respective authorities.

Methods and materials for containment and cleaning up Sweep up and shovel using a clean broom or shovel.

Shovel material into clean dry containers.

All spills of this product should be treated as contaminated. Contaminated product may initiate a chemical reaction that

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may spontaneously ignite any combustible material present,

resulting in a fire.

Avoid getting spilled product wet.

Do not seal disposal containers tightly. Immediately remove all product in disposal containers to an isolated area outdoors.

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

Advice on protection against

fire and explosion

Keep away from combustible material.

Provide appropriate exhaust ventilation at places where dust

is formed.

Advice on safe handling : Avoid dust formation.

Provide sufficient air exchange and/or exhaust in work rooms.

Do not breathe vapours/dust.

Do not smoke.

Container hazardous when empty.

Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes.

Smoking, eating and drinking should be prohibited in the

application area.

For personal protection see section 8.

Dispose of rinse water in accordance with local and national

regulations.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated

place.

Containers which are opened must be carefully resealed and

kept upright to prevent leakage. Observe label precautions.

Electrical installations / working materials must comply with

the technological safety standards.

Store in original container.

Recommended storage

temperature

<= 95 °F / <= 35 °C

Further information on storage stability

: Do not store next to a heat source, in direct sunlight, or elevated temperatures. Do not store where the daily average temperature exceeds prescribed storage temperature for 7 consecutive days. Prevent ingress of humidity and moisture into container or package. Keep containers tightly closed.

Maximum average daily temperature as recommended(where the average daily temperature may be obtained by averaging the minimum and maximum temperatures for each day). Storage above this temperature may result in rapid

decomposition, evolution of chlorine gas and heat sufficient to

ignite combustible products.

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

#### Components with workplace control parameters

| Components        | CAS-No.   | Value type<br>(Form of<br>exposure) | Control parameters / Permissible concentration | Basis     |
|-------------------|-----------|-------------------------------------|------------------------------------------------|-----------|
| CALCIUM HYDROXIDE | 1305-62-0 | TWA                                 | 5 mg/m3                                        | ACGIH     |
|                   |           | TWA                                 | 5 mg/m3                                        | NIOSH REL |
|                   |           | TWA (total dust)                    | 15 mg/m3                                       | OSHA Z-1  |
|                   |           | TWA<br>(respirable<br>fraction)     | 5 mg/m3                                        | OSHA Z-1  |
|                   |           | TWA                                 | 5 mg/m3                                        | OSHA P0   |
| CALCIUM CARBONATE | 471-34-1  | TWA<br>(Respirable)                 | 5 mg/m3<br>(Calcium<br>carbonate)              | NIOSH REL |
|                   |           | TWA (total)                         | 10 mg/m3<br>(Calcium<br>carbonate)             | NIOSH REL |

**Engineering measures** 

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Provide appropriate exhaust ventilation at places where dust is formed.

Personal protective equipment

Respiratory protection : In the case of dust or aerosol formation use respirator with an

approved filter.

Dust safety masks are recommended when the dust

concentration is more than 10 mg/m3.

Hand protection

Remarks : The suitability for a specific workplace should be discussed

with the producers of the protective gloves.

Eye protection : Wear chemical splash goggles and face shield to protect

eyes and skin from airborne dust.

Maintain eye wash station in immediate work area.

Skin and body protection : Wear as appropriate:

Chemical resistant apron

Safety shoes

Dust impervious protective suit

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Flame-resistant clothing

Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear resistant gloves (consult your safety equipment

supplier).

Discard gloves that show tears, pinholes, or signs of wear.

Hygiene measures : Avoid breathing dust.

Wash hands before breaks and at the end of workday.

When using do not eat or drink.

Ensure that eyewash stations and safety showers are close

to the workstation location. When using do not smoke.

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

Appearance : tablet

Colour : white

Odour : chlorine-like

Odour Threshold : No data available

pH : 10.5 - 11.5 (77 °F / 25 °C)

Concentration: 1 %

Melting point/freezing point : Not applicable

Boiling point/boiling range : No data available

Flash point : Not applicable

Evaporation rate : Not applicable

Flammability (solid, gas) : Not combustible Dust

Self-ignition : No data available

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower :

flammability limit

No data available

Vapour pressure : Not applicable

Relative vapour density : No data available

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Relative density : Not applicable

Density : No data available

Solubility(ies)

Water solubility : ca. 180 g/l (77 °F / 25 °C)

Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

No data available

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Oxidizing properties : The substance or mixture is classified as oxidizing with the

category 2.

Particle size : No data available

## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : Stable under recommended storage conditions.

Conditions to avoid : Avoid heat, open flame, and prolonged storage at elevated

temperatures.
excessive heat
Exposure to moisture

Keep away from heat, flame, sparks and other ignition

sources.

Incompatible materials : Do not allow product to come in contact with other materials,

including e.g. other pool treatment products, acids, organic materials, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials, etc. A chemical reaction with such substances can

cause a fire.

If product is exposed to small amounts of water, it can react

violently to produce heat and toxic gases and spatter.

Hazardous decomposition

products

Chlorine

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

## **Acute toxicity**

Harmful if swallowed.

#### **Components:**

## **CALCIUM HYPOCHLORITE:**

Acute oral toxicity : LD50 (Rat): 850 mg/kg

Acute inhalation toxicity : Assessment: Corrosive to the respiratory tract.

Acute dermal toxicity : LD50 (Rabbit): > 2 g/kg

**CALCIUM HYDROXIDE:** 

Acute inhalation toxicity : Remarks: Corrosive to respiratory system.

**CALCIUM CHLORIDE:** 

Acute oral toxicity : LD50 (Rat): 2,301 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

**CALCIUM CARBONATE:** 

Acute oral toxicity : LD50 (Rat): 6,450 mg/kg

Acute inhalation toxicity : LC 50 (Rat): > 3 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Assessment: Not classified as acutely toxic by inhalation

under GHS. Remarks: Aerosol

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

#### Skin corrosion/irritation

Causes severe burns.

**Product:** 

Remarks : Causes severe skin burns and eye damage.

## **Components:**

#### **CALCIUM HYPOCHLORITE:**

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Result : Corrosive after 3 minutes to 1 hour of exposure

**CALCIUM HYDROXIDE:** 

Result : Irritating to skin

**CALCIUM CHLORIDE:** 

Result : Not irritating to skin

**CALCIUM CARBONATE:** 

Result : Not irritating to skin

Serious eye damage/eye irritation

Causes serious eye damage.

**Product:** 

Remarks : May cause irreversible eye damage.

**Components:** 

**CALCIUM HYPOCHLORITE:** 

Result : Corrosive to eyes

**CALCIUM HYDROXIDE:** 

Result : Corrosive to eyes

**CALCIUM CHLORIDE:** 

Result : Severely irritating to eyes

**CALCIUM CARBONATE:** 

Result : Not irritating to eyes

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC No component of this product present at levels greater than or equal to 0.1% is

identified as probable, possible or confirmed human carcinogen by IARC.

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**OSHA**No component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

## Reproductive toxicity

Not classified based on available information.

## STOT - single exposure

May cause respiratory irritation.

## **Components:**

#### **CALCIUM HYPOCHLORITE:**

Assessment : May cause respiratory irritation.

#### **CALCIUM HYDROXIDE:**

Assessment : May cause respiratory irritation.

## STOT - repeated exposure

Not classified based on available information.

#### **Aspiration toxicity**

Not classified based on available information.

#### **Further information**

**Product:** 

Remarks : No data available

#### **SECTION 12. ECOLOGICAL INFORMATION**

# **Ecotoxicity**

## **Product:**

#### **Ecotoxicology Assessment**

Acute aquatic toxicity : Acute aquatic toxicity Category 1; Very toxic to aquatic life.

Chronic aquatic toxicity : Not classified based on available information.

#### **Components:**

#### **CALCIUM HYPOCHLORITE:**

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.049 - 0.16

mg/l

Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 0.067 mg/l

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aquatic invertebrates Exposure time: 48 h

**CALCIUM CHLORIDE:** 

Toxicity to fish : LC50 (Bluegill (Lepomis macrochirus)): 9,500 mg/l

> Exposure time: 96 h Method: Static Remarks: Mortality

aquatic invertebrates

Toxicity to daphnia and other : LC 50 (Water flea (Ceriodaphnia dubia)): 1,770 - 2,030 mg/l

Exposure time: 48 h Method: Static Remarks: Mortality

**CALCIUM CARBONATE:** 

Toxicity to fish : LC50 (Gambusia affinis (Mosquito fish)): > 56,000 mg/l

> Exposure time: 96 h Test Type: static test

Persistence and degradability

Components:

**CALCIUM HYPOCHLORITE:** 

Biodegradability Result: The methods for determining biodegradability are not

applicable to inorganic substances.

**CALCIUM HYDROXIDE:** 

Biodegradability : Result: The methods for determining biodegradability are not

applicable to inorganic substances.

CALCIUM CHLORIDE:

Biodegradability : Result: The methods for determining biodegradability are not

applicable to inorganic substances.

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

**Product:** 

Additional ecological

information

: An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

Very toxic to aquatic life.

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#### **SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods** 

Waste from residues : The product should not be allowed to enter drains, water

courses or the soil.

Do not contaminate ponds, waterways or ditches with

chemical or used container.

Dispose of in accordance with all applicable local, state and

federal regulations.

Contaminated packaging : Empty remaining contents.

Dispose of as unused product.

Empty containers should be taken to an approved waste

handling site for recycling or disposal. Do not re-use empty containers.

Do not burn, or use a cutting torch on, the empty drum.

#### **SECTION 14. TRANSPORT INFORMATION**

## **International Regulations**

IATA-DGR

UN number : UN 1748

Proper shipping name : Calcium hypochlorite mixture, dry

Class : 5.1
Packing group : III
Marine pollutant : no

**IMDG-Code** 

UN number : UN 1748

Proper shipping name : Calcium hypochlorite mixtures dry

Class : 5.1
Packing group : III
EmS Code : F-H, S-Q
Marine pollutant : yes

# Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

# **National Regulations**

49 CFR

UN number : UN 1748

Proper shipping name : CALCIUM HYPOCHLORITE MIXTURE, DRY

Class : 5.1
Packing group : III
ERG Code : 140
Marine pollutant : yes

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# Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

#### **SECTION 15. REGULATORY INFORMATION**

# **EPCRA - Emergency Planning and Community Right-to-Know Act**

**CERCLA Reportable Quantity** 

| Components           | CAS-No.   | Component RQ | Calculated product RQ |
|----------------------|-----------|--------------|-----------------------|
|                      |           | (lbs)        | (lbs)                 |
| CALCIUM HYPOCHLORITE | 7778-54-3 | 10           | 14                    |
|                      |           |              |                       |
|                      |           |              |                       |

# SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

# SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Oxidiser (liquid, solid or gas)

Acute toxicity (any route of exposure)

Skin corrosion or irritation

Serious eye damage or eye irritation

Specific target organ toxicity (single or repeated exposure)

SARA 313 : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

## **US State Regulations**

# Massachusetts Right To Know

| calcium hypochlorite | 7778-54-3  |
|----------------------|------------|
| CALCIUM HYDROXIDE    | 1305-62-0  |
| CALCIUM CHLORATE     | 10137-74-3 |

# Pennsylvania Right To Know

| calcium hypochlorite | 7778-54-3  |
|----------------------|------------|
| SODIUM CHLORIDE      | 7647-14-5  |
| WATER                | 7732-18-5  |
| CALCIUM HYDROXIDE    | 1305-62-0  |
| CALCIUM CHLORATE     | 10137-74-3 |

## **New Jersey Right To Know**

| calcium hypochlorite | 7778-54-3 |
|----------------------|-----------|
| SODIUM CHLORIDE      | 7647-14-5 |
| WATER                | 7732-18-5 |
| CALCIUM HYDROXIDE    | 1305-62-0 |

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calcium chloride 10043-52-4
CALCIUM CARBONATE 471-34-1
CALCIUM CHLORATE 10137-74-3

#### California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

## The components of this product are reported in the following inventories:

TCSI : On the inventory, or in compliance with the inventory

TSCA : Exempt

AIIC : On the inventory, or in compliance with the inventory

DSL : Exempt

ENCS : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

## **TSCA list**

Exempt- This product is exempt from Significant New Use Rule requirements. See information under Biocides for product registration information."

Exempt-This product is exempt from TSCA 12(b) requirements. See information under Biocides for product registration information."

#### **Biocides**

EPA Reg. # 1258-1179

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Danger, Highly Corrosive., Causes skin and eye damage., May be fatal if swallowed., Irritating to nose and throat.

## **SECTION 16. OTHER INFORMATION**

#### **Further information**

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#### **Full text of H-Statements**

H272 : May intensify fire; oxidizer. H302 : Harmful if swallowed.

H314 : Causes severe skin burns and eye damage.

H315 : Causes skin irritation.

H318 : Causes serious eye damage. H319 : Causes serious eye irritation. H335 : May cause respiratory irritation.

#### Full text of other abbreviations

Acute Tox. : Acute toxicity

Eye Dam. : Serious eye damage

Eye Irrit. : Eye irritation
Ox. Sol. : Oxidizing solids
Skin Corr. : Skin corrosion
Skin Irrit. : Skin irritation

STOT SE : Specific target organ toxicity - single exposure ACGIH : USA. ACGIH Threshold Limit Values (TLV) NIOSH REL : USA. NIOSH Recommended Exposure Limits

OSHA P0 : USA. Table Z-1-A Limits for Air Contaminants (1989 vacated

values)

OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1

Limits for Air Contaminants

ACGIH / TWA : 8-hour, time-weighted average

NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour

workday during a 40-hour workweek

OSHA P0 / TWA : 8-hour time weighted average OSHA Z-1 / TWA : 8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN -Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL -Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS -Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS -Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx -Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System: IARC - International Agency for Research on Cancer: IATA -International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO -International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS

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- Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Safety Data Sheet
Key literature references and sources of data
SOLENIS Internal data
SOLENIS internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. This SDS has been prepared by the Solenis Environmental Health and Safety Department.

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