Hydro Dioxide

Green Tech International Limited

Chemwatch Hazard Alert Code: **2**

Part Number:
Version No: **1.5**
Safety data sheet according to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

Initial Date: **03/06/2026**
Revision Date: **03/06/2026**
Print Date: **03/06/2026**
S.REACH.GB.EN

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

1.1. Product Identifier

Product name	Hydro Dioxide
Physical Form	Mixture
Synonyms	Not Available
Other means of identification	Not Available

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

Chemical Product Category	PC8	Biocidal products
Sector of Use - Sub Category	SU22	Professional uses
Relevant identified uses	This product may be used as a Biocidal active substance in accordance with EU Biocides Regulation 528/2012 (EU BPR) if the appropriate local authorisation/notification has been obtained, where applicable. Chemical product for water treatment and disinfection. Chlorine dioxide (CAS no. 10049-04-4) generated in situ from sodium chlorite by acidification and oxidation	
Uses advised against	No specific uses advised against are identified.	

1.3. Details of the manufacturer or importer of the safety data sheet

Manufacturer/Supplier	**Green Tech International Limited**
Address	Unit A, Fosters Business Park, Old School Road, Hook, RG27 9NY England GB
Telephone	Not Available
Fax	Not Available
Website	www.greentech-international.com
Email	Not Available

1.4. Emergency telephone number

Association / Organisation	**NHS**
Emergency telephone number(s)	**111**
Other emergency telephone number(s)	**999**

SECTION 2 HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CHEMWATCH HAZARD RATINGS

		Min Max
Flammability	**1**	▬
Toxicity	**2**	▬▬
Body Contact	**2**	▬▬
Reactivity	**1**	▬
Chronic	**0**	

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments[1]	H312 - Acute Toxicity (Dermal) Category 4, H314 - Skin Corrosion/Irritation Category 1B, H335 - Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, H411 - Hazardous to the Aquatic Environment Long-Term Hazard Category 2
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567*

2.2. Label elements

Hazard pictogram(s)	
SIGNAL WORD	**DANGER**

Hazard statement(s)

H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.

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H411	Toxic to aquatic life with long lasting effects.

Supplementary statement(s)

Not Applicable

Precautionary statement(s) Prevention

P260	Do not breathe dust/fume.
P264	Wash all exposed external body areas thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P273	Avoid release to the environment.

Precautionary statement(s) Response

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 [or shower].
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor/physician/first aider.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P362+P364	Take off contaminated clothing and wash it before reuse.

Precautionary statement(s) Storage

P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

Material contains sodium dichloroisocyanurate, sodium chlorite.

2.3. Other hazards

Cumulative effects may result following exposure*.

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

This substance/mixture does not meet the criteria for classification as Persistent, Bioaccumulative, and Toxic (PBT) in accordance with Annex XIII, Commission Delegated Regulation (EU) 2017/2100, and Commission Regulation (EU) 2018/605.

This substance/mixture does not meet the criteria for classification as very Persistent and very Bioaccumulative (vPvB) in accordance with Annex XIII, Commission Delegated Regulation (EU) 2017/2100, and Commission Regulation (EU) 2018/605.

This substance/mixture does not meet the criteria for classification as Persistent, Mobile and Toxic (PMT) in accordance with Commission Delegated Regulation (EU) 2023/707.

This substance/mixture does not meet the criteria for classification as very Persistent and very Mobile (vPvM) in accordance with Commission Delegated Regulation (EU) 2023/707.

The substance/mixture does not contain components considered to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605, nor is it included in the list established under REACH Article 59(1), at concentrations equal to or greater than 0.1% (w/w).

No further product hazard information.

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	Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567	SCL / M-Factor	Nanoform Particle Characteristics
1. 124-04-9 2. 204-673-3 3. 607-144-00-9 4. Not Available	45.55	adipic acid	Serious Eye Damage/Eye Irritation Category 2; H319[2]	SCL: Not Available Acute M factor:Not Applicable Chronic M factor:Not Applicable	Not Available
1. 51580-86-0* 2. 220-767-7 3. 613-030-01-7, 613-030-00-X 4. Not Available	12	sodium dichloroisocyanurate	Acute Toxicity (Oral) Category 4, Serious Eye Damage/Eye Irritation Category 2, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Hazardous to the Aquatic Environment Long-Term Hazard Category 1; H302, H319, H335, H410[1]	* STOT SE 3; H335: C ≥ 10 %, EUH031: C ≥10 % Acute M factor:Not Applicable Chronic M factor:1	Not Available
1. 10043-52-4 2. 233-140-8 3. 017-013-00-2	10	calcium chloride	Serious Eye Damage/Eye Irritation Category 2; H319[2]	SCL: Not Available	Not Available

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4. Not Available				Acute M factor:Not Applicable Chronic M factor:Not Applicable	
1. 7758-19-2* 2. 231-836-6 3. Not Available 4. Not Available	9.9	sodium chlorite	Oxidizing Solids Category 2, Acute Toxicity (Dermal) Category 3, Skin Corrosion/Irritation Category 1B, Specific Target Organ Toxicity - Repeated Exposure Category 2, Hazardous to the Aquatic Environment Long-Term Hazard Category 1; H272, H311, H314, H373, H410, EUH032, EUH071[1]	SCL: Not Available Acute M factor:Not Applicable Chronic M factor:1	Not Available
1. 144-55-8 2. 205-633-8 3. Not Available 4. Not Available	20	sodium bicarbonate	Non hazardous[1]	SCL: Not Available Acute M factor:Not Applicable Chronic M factor:Not Applicable	Not Available

Legend: *1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567; 3. Classification drawn from C&L; * EU IOELVs available; [e] Substance identified as having endocrine disrupting properties*

SECTION 4 FIRST AID MEASURES

4.1. Description of first aid measures

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 or hair contact occurs: • Immediately flush body and clothes with large amounts of water, using safety shower if available. • Quickly remove all contaminated clothing, including footwear. • Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. • Transport to hospital, or doctor.
Inhalation	• If fumes or combustion products are inhaled remove from contaminated area. • Lay patient down. Keep warm and rested. • Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. • Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. • Transport to hospital, or doctor, without delay. • Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema. • Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs). • As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested. • Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered. **This must definitely be left to a doctor or person authorised by him/her.** (ICSC13719)
Ingestion	• For advice, contact a Poisons Information Centre or a doctor at once. • Urgent hospital treatment is likely to be needed. • If swallowed do **NOT** induce vomiting. • If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. • Observe the patient carefully. • Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. • Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. • Transport to hospital or doctor without delay.

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.
Treat symptomatically.
for corrosives:

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- Monitor and treat, where necessary, for pulmonary oedema .
- Monitor and treat, where necessary, for shock.
- Anticipate seizures.
- Where eyes have been exposed, flush immediately with water and continue to irrigate with normal saline during transport to hospital.
- **DO NOT** use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.
- Skin burns should be covered with dry, sterile bandages, following decontamination.
- **DO NOT** attempt neutralisation as exothermic reaction may occur.

ADVANCED TREATMENT

Continued...

- Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- Positive-pressure ventilation using a bag-valve mask might be of use.
- Monitor and treat, where necessary, for arrhythmias.
- Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- Drug therapy should be considered for pulmonary oedema.
- Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- Treat seizures with diazepam.
- Proparacaine hydrochloride should be used to assist eye irrigation.

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EMERGENCY DEPARTMENT
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- Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime.
- Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.
- Consider endoscopy to evaluate oral injury.
- Consult a toxicologist as necessary.

BRONSTEIN, A.C. and CURRANCE, P.L. EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

SECTION 5 FIREFIGHTING MEASURES

5.1. Extinguishing media

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

5.2. Special hazards arising from the substrate or mixture

Fire Incompatibility	• Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

5.3. Advice for firefighters

Fire Fighting	• Alert Fire Brigade and tell them location and nature of hazard. • Wear full body protective clothing with breathing apparatus. • Prevent, by any means available, spillage from entering drains or water course. • Use fire fighting procedures suitable for surrounding area. • **Do not** approach containers suspected to be hot. • Cool fire exposed containers with water spray from a protected location. • If safe to do so, remove containers from path of fire. • Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	• Combustible solid which burns but propagates flame with difficulty; it is estimated that most organic dusts are combustible (circa 70%) - according to the circumstances under which the combustion process occurs, such materials may cause fires and / or dust explosions. • Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions). • Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited - particles exceeding this limit will generally not form flammable dust clouds; once initiated, however, larger particles up to 1400 microns diameter will contribute to the propagation of an explosion. • In the same way as gases and vapours, dusts in the form of a cloud are only ignitable over a range of concentrations; in principle, the concepts of lower explosive limit (LEL) and upper explosive limit (UEL) are applicable to dust clouds but only the LEL is of practical use; - this is because of the inherent difficulty of achieving homogeneous dust clouds at high temperatures (for dusts the LEL is often called the "Minimum Explosible Concentration", MEC). • When processed with flammable liquids/vapors/mists,ignitable (hybrid) mixtures may be formed with combustible dusts. Ignitable mixtures will increase the rate of explosion pressure rise and the Minimum Ignition Energy (the minimum amount of energy required to ignite dust clouds - MIE) will be lower than the pure dust in air mixture. The Lower Explosive Limit (LEL) of the vapour/dust mixture will be lower than the individual LELs for the vapors/mists or dusts. • A dust explosion may release of large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people. • Usually the initial or primary explosion takes place in a confined space such as plant or machinery, and can be of sufficient force to damage or rupture the plant. If the shock wave from the primary explosion enters the surrounding area, it will disturb any settled dust layers, forming a second dust cloud, and often initiate a much larger secondary explosion. All large scale explosions have resulted from chain reactions of this type. • Dry dust can be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport. • Build-up of electrostatic charge may be prevented by bonding and grounding. • Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting. • All movable parts coming in contact with this material should have a speed of less than 1-meter/sec. • A sudden release of statically charged materials from storage or process equipment, particularly at elevated temperatures and/ or pressure, may result in ignition especially in the absence of an apparent ignition source. • One important effect of the particulate nature of powders is that the surface area and surface structure (and often moisture content) can vary widely from sample to sample, depending of how the powder was manufactured and handled; this means that it is virtually impossible to use flammability data published in the literature for dusts (in contrast to that published for gases and vapours). • Autoignition temperatures are often quoted for dust clouds (minimum ignition temperature (MIT)) and dust layers (layer ignition temperature (LIT)); LIT generally falls as the thickness of the layer increases. Combustion products include: • carbon monoxide (CO) • carbon dioxide (CO2) metal oxides • other pyrolysis products typical of burning organic material.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

Continued...

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

Minor Spills	• Remove all ignition sources. • Clean up all spills immediately. • Avoid contact with skin and eyes. • Control personal contact with the substance, by using protective equipment. • Use dry clean up procedures and avoid generating dust. • Place in a suitable, labelled container for waste disposal. • Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material. • Check regularly for spills and leaks.
Major Spills	• Clear area of personnel and move upwind. • Alert Fire Brigade and tell them location and nature of hazard. • Wear full body protective clothing with breathing apparatus. • Prevent, by any means available, spillage from entering drains or water course. • Consider evacuation (or protect in place). • Stop leak if safe to do so. • Contain spill with sand, earth or vermiculite. • Collect recoverable product into labelled containers for recycling. • Neutralise/decontaminate residue (see Section 13 for specific agent). • Collect solid residues and seal in labelled drums for disposal. • Wash area and prevent runoff into drains. • After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using. • 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

7.1. Precautions for safe handling

Safe handling	• Avoid skin contact, including inhalation. • Wear protective clothing when risk of exposure occurs. • Use in a well-ventilated area. • **WARNING:** To avoid violent reaction, **ALWAYS** add material to water and **NEVER** water to material. • Avoid smoking, naked lights or ignition sources. • 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. • Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions) • Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame. • Establish good housekeeping practices. • Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds. • Use continuous suction at points of dust generation to capture and minimise the accumulation of dusts. Particular attention should be given to overhead and hidden horizontal surfaces to minimise the probability of a "secondary" explosion. According to NFPA Standard 654, dust layers 1/32 in.(0.8 mm) thick can be sufficient to warrant immediate cleaning of the area. • Do not use air hoses for cleaning. • Minimise dry sweeping to avoid generation of dust clouds. Vacuum dust-accumulating surfaces and remove to a chemical disposal area. Vacuums with explosion-proof motors should be used. • Control sources of static electricity. Dusts or their packages may accumulate static charges, and static discharge can be a source of ignition. • Solids handling systems must be designed in accordance with applicable standards (e.g. NFPA including 654 and 77) and other national guidance. • Do not empty directly into flammable solvents or in the presence of flammable vapors. • The operator, the packaging container and all equipment must be grounded with electrical bonding and grounding systems. Plastic bags and plastics cannot be grounded, and antistatic bags do not completely protect against development of static charges. Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source. • Do NOT cut, drill, grind or weld such containers. • In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.
Fire and explosion protection	See section 5
Other information	• Store in original containers. • Keep containers securely sealed. • Store in a cool, dry, well-ventilated area. • Store away from incompatible materials and foodstuff containers. • Protect containers against physical damage and check regularly for leaks. • Observe manufacturer's storage and handling recommendations contained within this SDS.

7.2. Conditions for safe storage, including any incompatibilities

Suitable container	• Glass container is suitable for laboratory quantities • Lined metal can, lined metal pail/ can. • Plastic pail. • Polyliner drum. • Packing as recommended by manufacturer. • Check all containers are clearly labelled and free from leaks. For low viscosity materials • Drums and jerricans must be of the non-removable head type.

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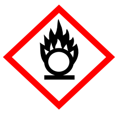
	• Where a can is to be used as an inner package, the can must have a screwed enclosure. For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.): • Removable head packaging; • Cans with friction closures and • low pressure tubes and cartridges may be used. - Where combination packages are used, and the inner packages are of glass, porcelain or stoneware, there must be sufficient inert cushioning material in contact with inner and outer packages unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.
Storage incompatibility	Adipic acid • may ignite or explode in contact with strong oxidisers • is incompatible with sulfuric acid, caustics, ammonia, aliphatic amines, alkanolamines, isocyanates, alkylene oxides, epichlorohydrin • may generate electrostic charges due to low conductivity Calcium chloride (and its hydrates): • are incompatible with boric acid, calcium oxide, bromine trifluoride, 2-furan, percarboxylic acid • may produce explosive hydrogen gas on contact with zinc • catalyse exothermic polymerisation of methyl vinyl ether • produce heat on contact with water • attack metals Addition of a quantity of calcium chloride to boiling water has generated heat sufficient to cause a violent steam explosion on several occasions • In presence of moisture, the material is corrosive to aluminium, zinc and tin producing highly flammable hydrogen gas. • Reacts with metals producing flammable / explosive hydrogen gas • Avoid strong bases. • Avoid reaction with oxidising agents
Hazard categories in accordance with Regulation (EC) No 2012/18/EU (Seveso III)	E2: Hazardous to the Aquatic Environment in Category Chronic 2
Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of	E2 Lower- / Upper-tier requirements: 200 / 500

						
+	×	○	×	+	+	+

× – *Must not be stored together*
○ – *May be stored together with specific preventions*
+ – *May be stored together*
Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.

7.3. Specific end use(s)

See section 1.2

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
adipic acid	Dermal 21 mg/kg bw/day (Systemic, Chronic) Inhalation 74.1 mg/m³ (Systemic, Chronic) ***#Dermal 7.5 mg/kg bw/day (Systemic, Chronic) **** ***#Inhalation 13 mg/m³ (Systemic, Chronic) **** ***#Oral 7.5 mg/kg bw/day (Systemic, Chronic) ****	0.126 mg/L (Water (Fresh)) 0.46 mg/L (Water - Intermittent release) 0.013 mg/L (Water (Marine)) 0.474 mg/kg sediment dw (Sediment (Fresh Water)) 0.047 mg/kg sediment dw (Sediment (Marine)) 0.021 mg/kg soil dw (Soil)
sodium dichloroisocyanurate	Dermal 2.3 mg/kg bw/day (Systemic, Chronic) Inhalation 8.11 mg/m³ (Systemic, Chronic) ***#Dermal 1.15 mg/kg bw/day (Systemic, Chronic) **** ***#Inhalation 1.99 mg/m³ (Systemic, Chronic) **** ***#Oral 1.15 mg/kg bw/day (Systemic, Chronic) ****	0 mg/L (Water (Fresh)) 0.002 mg/L (Water - Intermittent release) 1.52 mg/L (Water (Marine)) 7.56 mg/kg sediment dw (Sediment (Fresh Water)) 0.756 mg/kg soil dw (Soil) 0.59 mg/L (STP)
calcium chloride	Inhalation 5 mg/m³ (Local, Chronic) Inhalation 10 mg/m³ (Local, Acute) ***#Inhalation 2.5 mg/m³ (Local, Chronic) **** ***#Inhalation 5 mg/m³ (Local, Acute) ****	Not Available
sodium chlorite	Dermal 0.8 mg/kg bw/day (Systemic, Chronic) Inhalation 0.28 mg/m³ (Systemic, Chronic) Dermal 0.8 mg/kg bw/day (Systemic, Acute) Inhalation 0.28 mg/m³ (Systemic, Acute) ***#Dermal 0.4 mg/kg bw/day (Systemic, Chronic) **** ***#Inhalation 0.07 mg/m³ (Systemic, Chronic) **** ***#Oral 0.04 mg/kg bw/day (Systemic, Chronic) **** ***#Dermal 0.4 mg/kg bw/day (Systemic, Acute) **** ***#Inhalation 0.07 mg/m³ (Systemic, Acute) **** ***#Oral 0.04 mg/kg bw/day (Systemic, Acute) ****	0.00065 mg/L (Water (Fresh)) 0.006 mg/L (Water - Intermittent release) 0.000065 mg/L (Water (Marine)) 1 mg/L (STP)

Continued...

* Values for General Population

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	TEEL-1	TEEL-2	TEEL-3
calcium chloride	12 mg/m3	130 mg/m3	790 mg/m3
calcium chloride	16 mg/m3	170 mg/m3	1,100 mg/m3
calcium chloride	13 mg/m3	140 mg/m3	850 mg/m3
calcium chloride	24 mg/m3	260 mg/m3	1,600 mg/m3
sodium chlorite	0.19 mg/m3	2.1 mg/m3	13 mg/m3
sodium bicarbonate	13 mg/m3	140 mg/m3	840 mg/m3

OCCUPATIONAL EXPOSURE BANDING

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
adipic acid	C	> 0.1 to ≤ 1 milligrams per cubic meter of air (mg/m³)
sodium dichloroisocyanurate	C	> 0.1 to ≤ 1 milligrams per cubic meter of air (mg/m³)
calcium chloride	C	> 0.1 to ≤ 1 milligrams per cubic meter of air (mg/m³)
sodium chlorite	E	≤ 0.01 mg/m³
Notes:	*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*	

8.2. Exposure controls

8.2.1. Appropriate engineering controls

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

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.
- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of:

(a): particle dust respirators, if necessary, combined with an absorption cartridge;
(b): filter respirators with absorption cartridge or canister of the right type;
(c): fresh-air hoods or masks

- Build-up of electrostatic charge on the dust particle, may be prevented by bonding and grounding.
- Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.

Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to efficiently remove the contaminant.

Type of Contaminant:	Air Speed:
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 ft/min)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 ft/min)

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 4-10 m/s (800-2000 ft/min) for extraction of crusher dusts generated 2 metres 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. Individual protection measures, such as personal protective equipment

Eye and face protection

- Chemical goggles.
- Full face shield may be required for supplementary but never for primary protection of eyes.
- 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

Continued...

	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]
Skin protection	See Hand protection below
Hands/feet protection	• Wear chemical protective gloves, e.g. PVC. • Wear safety footwear or safety gumboots, e.g. Rubber The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended. Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: · frequency and duration of contact, · chemical resistance of glove material, · glove thickness and · dexterity Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent). · When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. · When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. · Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use. · Contaminated gloves should be replaced. As defined in ASTM F-739-96 in any application, gloves are rated as: · Excellent when breakthrough time > 480 min · Good when breakthrough time > 20 min · Fair when breakthrough time < 20 min · Poor when glove material degrades For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended. It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times. Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task. Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example: · Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of. · Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.
Body protection	See Other protection below
Other protection	• Overalls. • PVC Apron. • PVC protective suit may be required if exposure severe. • Eyewash unit. • Ensure there is ready access to a safety shower.

Respiratory protection

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

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1 Air-line*	- -	PAPR-P1 -
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow
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)

· Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
· The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
· Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
· Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
· Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
· Use approved positive flow mask if significant quantities of dust becomes airborne.
· Try to avoid creating dust conditions.
Class P2 particulate filters are used for protection against mechanically and thermally generated particulates or both.
P2 is a respiratory filter rating under various international standards, Filters at least 94% of airborne particles
Suitable for:
· Relatively small particles generated by mechanical processes eg. grinding, cutting, sanding, drilling, sawing.
· Sub-micron thermally generated particles e.g. welding fumes, fertilizer and bushfire smoke.
· Biologically active airborne particles under specified infection control applications e.g. viruses, bacteria, COVID-19, SARS

8.2.3. Environmental exposure controls

Continued...

See section 12

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	White		
Physical state	Solid	**Relative density (Water = 1)**	1.5
Odour	Characteristic	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Applicable	**Decomposition temperature (°C)**	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 Available
Flash point (°C)	Not Available	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Product is not explosive
Flammability	Not Applicable	**Oxidising properties**	product has oxidising properties
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Applicable
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Applicable	**Gas group**	Not Available
Solubility in water	Miscible	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available
Heat of Combustion (kJ/g)	Not Available	**Ignition Distance (cm)**	Not Available
Flame Height (cm)	Not Available	**Flame Duration (s)**	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	**Enclosed Space Ignition Deflagration Density (g/m3)**	Not Available
Nanoform Solubility	Not Available	**Nanoform Particle Characteristics**	Not Available
Particle Size	Not Available		

9.2. Other information

Not Available

SECTION 10 STABILITY AND REACTIVITY

10.1. Reactivity	See section 7.2
10.2. Chemical stability	• Unstable in the presence of incompatible materials. • Product is considered stable. • 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

a) Acute Toxicity	There is sufficient evidence to classify this material as acutely toxic.
b) Skin Irritation/Corrosion	There is sufficient evidence to classify this material as skin corrosive or irritating.
c) Serious Eye Damage/Irritation	Based on available data, the classification criteria are not met.
d) Respiratory or Skin sensitisation	Based on available data, the classification criteria are not met.
e) Mutagenicity	Based on available data, the classification criteria are not met.
f) Carcinogenicity	Based on available data, the classification criteria are not met.
g) Reproductivity	Based on available data, the classification criteria are not met.
h) STOT - Single Exposure	There is sufficient evidence to classify this material as toxic to specific organs through single exposure
i) STOT - Repeated Exposure	Based on available data, the classification criteria are not met.
j) Aspiration Hazard	Based on available data, the classification criteria are not met.

Inhaled	The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled. If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.
Ingestion	The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.

Continued...

Accidental ingestion of the material may be damaging to the health of the individual.
Compared with other metals, the calcium ion and most calcium compounds have low toxicity. Acute calcium poisoning is rare, and occurs only when calcium compounds are taken in high doses over a long period, or given through a vein.
Excessive consumption of calcium carbonate antacids or pills over a period of weeks or months can cause milk-alkali syndrome, with high blood calcium and potentially fatal kidney failure.
Excessive calcium supplementation can be detrimental to cardiovascular health, especially in men.
Calcium supplementation given by mouth may reduce the absorption of thyroxine, when taken within 4-6 hours of each other. This may lead to inadequate thyroid hormone replacement and then hypothyroidism.
Ingestion of low-molecular organic acid solutions may produce spontaneous haemorrhaging, production of blood clots, gastrointestinal damage and narrowing of the oesophagus and stomach entry.

Skin Contact

Skin contact with the material may be harmful; systemic effects may result following absorption.
The material can produce chemical burns following direct contact with the skin.
Open cuts, abraded or irritated skin should not be exposed to this material
Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
This material can cause inflammation of the skin on contact in some persons.

Eye

The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.
Solutions of low-molecular weight organic acids cause pain and injury to the eyes.
This material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Moderate inflammation may be expected with redness; conjunctivitis may occur with prolonged exposure.

Chronic

Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue.
Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems.
Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems.
Adipic acid may damage to the liver and lungs. It increases the acidity of the blood, thus altering normal body processes. Moderate to long term exposure may cause depression, difficulty in breathing, inco-ordination and convulsions.
Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis, caused by particles less than 0.5 micron penetrating and remaining in the lung.

Hydro Dioxide

TOXICITY	IRRITATION
Not Available	Not Available

adipic acid

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >7940 mg/kg [2]	Eye (Rodent - rabbit): 10mg - Mild
Inhalation (Rat) LC50: >7.7 mg/l4h [2]	Eye (Rodent - rabbit): 20mg/24H - Moderate
Oral (Mouse) LD50; 1900 mg/kg [2]	Eye: adverse effect observed (irritating) [1]
	Skin (Rodent - rabbit): 0.25gm - Mild
	Skin: no adverse effect observed (not irritating) [1]

sodium dichloroisocyanurate

TOXICITY	IRRITATION
Dermal (rabbit) LD50: 11000 mg/kg [2]	Eye (Rodent - rabbit): 0.1gm - Severe
Oral (Rat) LD50: 1671 mg/kg [2]	Eye (Rodent - rabbit): 0.5gm - Severe
	Eye (Rodent - rabbit): 100mg/24H - Mild
	Eye (Rodent - rabbit): 10mg/24H - Moderate
	Eye: adverse effect observed (irritating) [1]
	Skin (Rodent - rabbit): 0.5gm - Mild
	Skin (Rodent - rabbit): 500mg - Severe
	Skin (Rodent - rabbit): 500mg/24H - Mild
	Skin: adverse effect observed (corrosive) [1]
	Skin: adverse effect observed (irritating) [1]

calcium chloride

TOXICITY	IRRITATION
dermal (rat) LD50: 2630 mg/kg [2]	Eye: adverse effect observed (irritating) [1]
Oral (Rabbit) LD50; 500-1000 mg/kg [1]	Skin: no adverse effect observed (not irritating) [1]

sodium chlorite

TOXICITY	IRRITATION
Dermal (rabbit) LD50: 100 mg/kg [1]	Eye: adverse effect observed (irritating) [1]
Inhalation (Rat) LC50: 0.23 mg/L4h [2]	Skin: adverse effect observed (corrosive) [1]
Oral (Rat) LD50: 165 mg/kg [2]	

sodium bicarbonate

TOXICITY	IRRITATION
Oral (Mouse) LD50; 3360 mg/kg [2]	Eye (Rodent - rabbit): 100mg/30S - Mild
	Eye: no adverse effect observed (not irritating) [1]
	Skin (Human): 30mg/3D (intermittent) - Mild
	Skin: no adverse effect observed (not irritating) [1]

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*

adipic acid

Non-mutagenic* Draize Eye Irritation Test: Rabbit, Score 18.2/110 - moderately irritating. Skin irritation (rabbit): 4 hr (FSHA); 0.0 on an scale of 8.0 - non-irritating.* Non-sensitising to rabbit skin * * Supreme Resources MSDS
The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

calcium chloride

For calcium:
Toxicity from calcium is not common, because the gastrointestinal tract normally limits the amount of calcium absorbed. Therefore, short-term intake of large amounts of calcium does not generally produce any ill effects aside from constipation and an increased risk of kidney

Continued...

	stones. However, more severe toxicity can occur when excess calcium is ingested over long periods, or when calcium is combined with increased amounts of vitamin D, which increases calcium absorption. Calcium toxicity is also found sometimes after excessive administration of calcium via a vein. Toxicity shows as abnormal deposition of calcium in tissues and by elevated blood calcium levels. However, high blood calcium is often due to other causes, such as abnormally high amounts of parathyroid hormone (PTH). Usually, under these circumstances, bone density is lost, and the resulting high blood calcium can cause kidney stones and abdominal pain. Some cancers can also cause high blood calcium, either by secreting abnormal proteins that act like PTH or by invading and killing bone cells causing them to release calcium. Very high levels of calcium can result in appetite loss, nausea, vomiting, abdominal pain, confusion, seizures, and even coma. For calcium chloride: Acute toxicity: The acute oral toxicity of calcium chloride is low. It is attributed to the severe irritating property to the gastrointestinal tract. In humans, acute oral toxicity is rare because large single doses cause nausea and vomiting. There is very little toxicity by skin contact. High blood calcium generally occurs only when there are other factors that affect calcium balance, such as kidney inefficiency and primary thyroid overactivity. Animal testing indicates that calcium chloride is at most slightly irritating to skin, but severely irritating to the eyes. Prolonged exposure and application of moistened material or concentrated solutions did result in considerable skin irritation. Repeat dose toxicity: Animal testing did not show evidence of chronic toxicity. Calcium and chloride are both essential nutrients and a daily intake has been recommended. Genetic toxicity: Test results for genetic toxicity have been negative. Reproductive and developmental toxicity: No reproductive toxicity study has been reported. An animal test on developmental toxicity yielded negative results. The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
sodium bicarbonate	Oral (human-infant) TDLo: 1260 mg/kg Skin (human): 30 mg/3d-I-mild The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
Hydro Dioxide & adipic acid	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. 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. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production. Adipic acid: **Acute toxicity:** In limited studies in animals and humans it was shown that adipic acid is absorbed after oral administration, partially metabolized to various metabolites and CO2 which are excreted via urine and breath, respiration. None of the studies was conducted according to GLP. Adipic acid is of very low acute toxicity. Clinical signs at lethal doses included acute dilatation of the heart and acute congestive hyperaemia, ulceration of glandular stomach (bleeding-corrosive gastritis), intestinal atony, pale liver and reddening of intestinal mucosa. In an inhalation test similar to OECD TG 403 in rats neither mortality nor symptoms were observed during and after 4 hour exposure to 7700 mg/m3 of adipic acid. Reduced appetite and activity were the only effects reported following occlusive dermal administration of 7940 mg/kg bw of adipic acid to 2 rabbits for 24 hours. In rabbits, 50 % adipic acid suspensions were slightly irritating to the intact skin and moderately irritating to scarified skin. The neat material was a severe eye irritant in rabbits, with symptoms being reversible within 16 days. Respiratory irritation in animals is not sufficiently examined. Workers exposed over an extensive period (average. 9.2 years) complained of respiratory irritation at adipic acid concentrations of 0.47-0.79 mg/m3. Due to the acidic character of the substance, a local irritation potential is plausible. Despite the wide dispersive use of adipic acid, only very few cases of skin or respiratory tract sensitisation reactions are reported in humans. A sensitisation study in animals according to validated guidelines is not available. Overall, sensitisation is not expected for adipic acid. **Repeat dose toxicity:** There is no repeated inhalation toxicity study with histopathological examination of the nose available. Systemic effects after repeated inhalation have not been investigated in fully valid studies. There are no studies on repeated dermal application available. In a limited 2-year oral study adipic acid was of low repeated dose toxicity, however it was not tested according to modern standards. The NOAEL was 1 % for male rats (approx. 750 mg/kg bw/day) and higher doses (3 and 5 %) caused body weight retardation with no indication of specific target organ toxicity. The NOAEL for female rats was 1 % (approx. 750 mg/kg bw/day), the highest dose tested in females. In one volunteer no overt toxic symptoms were seen after oral administration of 7 g adipic acid per day for 10 days. **Genotoxicity:** A variety of mutagenicity tests in vitro and in vivo have failed to demonstrate that adipic acid possesses genotoxic potential. A number of good quality Ames tests in ***Salmonella typhimurium*** similar to OECD TG 471 and an examination of chromosome damage in human lung cells in culture produced negative results. In gavage studies in male rats it did not induce chromosome damage in the bone marrow or dominant lethal mutations in a dose-response or time-trend pattern. **Carcinogenicity:** Adipic acid was not carcinogenic in a limited two-years feeding study where male rats were fed with up to 5 % (3750 mg/kg bw/day) adipic acid and female rats with 1 % (750 mg/kg bw/day). **Reproductive toxicity:** No specific studies on fertility have been conducted. In a two-year feeding study in rats histopathological examination of testes, ovaries, and uterus revealed no evidence of an adverse effect on the reproductive organs up to the highest doses tested (males approx. 3750 mg/kg bw/day, females approx. 750 mg/kg bw/day). Based on the available data there is no reason to expect specific reproductive toxicity of adipic acid. **Developmental toxicity:** Adipic acid was not embryo- or foetotoxic and not teratogenic up to the highest tested doses of 288, 263, and 250 mg/kg bw/day via oral administration to rats, mice, and rabbits, respectively. In none of these studies signs of maternal toxicity have been observed and the highest dose was well below the limit dose of 1000 mg/kg bw which would be a precondition for a fully valid negative study. In view of the low systemic toxicity of the compound, however, this endpoint seems to be adequately covered despite the limitations of the studies

Acute Toxicity	✓	**Carcinogenicity**	✗
Skin Irritation/Corrosion	✓	**Reproductivity**	✗
Serious Eye Damage/Irritation	✗	**STOT - Single Exposure**	✓
Respiratory or Skin sensitisation	✗	**STOT - Repeated Exposure**	✗
Mutagenicity	✗	**Aspiration Hazard**	✗

Legend: ✗ ***– Data either not available or does not fill the criteria for classification***
✓ ***– Data available to make classification***

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

11.2.2. Other information

Continued...

See Section 11.1

SECTION 12 ECOLOGICAL INFORMATION

12.1. Toxicity

	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Hydro Dioxide	Not Available	Not Available	Not Available	Not Available	Not Available
adipic acid	EC50	72h	Algae or other aquatic plants	31.3mg/l	1
	EC50	48h	Crustacea	85.7mg/l	1
	NOEC(ECx)	504h	Crustacea	6.3mg/l	2
	EC50	96h	Algae or other aquatic plants	26.6mg/l	1
	LC50	96h	Fish	97mg/l	2
sodium dichloroisocyanurate	EC50	72h	Algae or other aquatic plants	0.73mg/l	4
	EC50	48h	Crustacea	0.093-0.16mg/L	4
	EC50	96h	Algae or other aquatic plants	655mg/l	2
	NOEC(ECx)	96h	Fish	0.056mg/l	2
	LC50	96h	Fish	0.13-0.36mg/L	4
	EC50	48h	Crustacea	0.22-0.36mg/L	4
	EC50(ECx)	48h	Crustacea	0.22-0.36mg/L	4
	LC50	96h	Fish	0.13-0.36mg/L	4
calcium chloride	NOEC(ECx)	0h	Fish	8.879mg/L	4
	EC50	72h	Algae or other aquatic plants	2900mg/l	2
	EC50	48h	Crustacea	52mg/l	1
	EC50	96h	Algae or other aquatic plants	1109.9mg/L	4
	LC50	96h	Fish	3mg/l	1
sodium chlorite	EC50	72h	Algae or other aquatic plants	5.76mg/l	2
	EC50	48h	Crustacea	0.83mg/l	1
	EC50	96h	Algae or other aquatic plants	<0.904mg/L	2
	LC50	96h	Fish	0.08mg/l	4
	ErC50	72h	Algae or other aquatic plants	5.76mg/l	2
	NOEC(ECx)	96h	Crustacea	0.25mg/l	1
sodium bicarbonate	EC50	48h	Crustacea	101mg/l	2
	NOEC(ECx)	240h	Algae or other aquatic plants	26.8mg/l	2
	EC50	96h	Algae or other aquatic plants	650mg/L	4
	LC50	96h	Fish	833.28mg/L	4
Legend:	*Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. US EPA, Ecotox database - Aquatic Toxicity Data 4. ECETOC Aquatic Hazard Assessment Data 5. NITE (Japan) - Bioconcentration Data 6. METI (Japan) - Bioconcentration Data 7. Vendor Data*				

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.
Wastes resulting from use of the product must be disposed of on site or at approved waste sites.
Environmental Fate: Adipic acid undergoes deprotonating under environmental conditions thus it usually exists as an anion. It is non-volatile and has low adsorptive potential that prefers to enter the water environment. Study shows that adipic acid is readily biodegradable.
Terrestrial Fate: When adipic acid is released on land, it will leach into the ground and may undergo biodegradation. There is no available information about the degradation of adipic acid in soil system.
Aquatic Fate: When released into water, adipic acid will readily undergo biodegradation.
Atmospheric Fate: When released in air, adipic acid will be associated with aerosols and will undergo gravitational settling. Vaporized adipic acid may be removed through reaction with hydroxyl radicals.
Ecotoxicity:
Fish LC50 (96h): 88-97 mg/l
Fish LC50 (96h): Danio rerio >1000 mg/l (pH 7.4-7.7)
Daphnia magna EC50 (48h): 85.6 mg/l
Algae EC50 (96h): Desmodesmus subspicatus 26.6 mg/l; (72h) 31.3 mg/l (growth inhibition)

Prevent, by any means available, spillage from entering drains or water courses.
DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Continued...

Ingredient	Persistence: Water/Soil	Persistence: Air
adipic acid	LOW	LOW
sodium bicarbonate	LOW	LOW

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
adipic acid	LOW (LogKOW = 0.08)
sodium bicarbonate	LOW (LogKOW = -4.01)

12.4. Mobility in soil

Ingredient	Mobility
adipic acid	LOW (KOC = 21.48)
sodium bicarbonate	HIGH (KOC = 1)

12.5. Results of PBT and vPvB assessment

	P	B	T	PBT criteria fulfilled?	vP	vB	vPvB criteria fulfilled?
Hydro Dioxide	## No data available	## No data available	## No data available	No	## No data available	## No data available	No
adipic acid	✗	✗	✗	No	✗	✗	No
sodium dichloroisocyanurate	✗	✗	✗	No	✗	✗	No
calcium chloride	✗	✗	✗	No	✗	✗	No
sodium chlorite	✗	✗	✓	No	✗	✗	No
sodium bicarbonate	✗	✗	✗	No	✗	✗	No

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

12.7. Other adverse effects

No evidence of ozone depleting properties were found in the current literature.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product / Packaging disposal	• Containers may still present a chemical hazard/ danger when empty. • Return to supplier for reuse/ recycling if possible. Otherwise: • If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. • Where possible retain label warnings and SDS and observe all notices pertaining to the product. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate: • Reduction • Reuse • Recycling • Disposal (if all else fails) This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate. In most instances the supplier of the material should be consulted. • **DO NOT** allow wash water from cleaning or process equipment to enter drains. • It may be necessary to collect all wash water for treatment before disposal. • In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. • Where in doubt contact the responsible authority. • Recycle wherever possible. • Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. • Treat and neutralise at an approved treatment plant. Treatment should involve: Mixing or slurrying in water; Neutralisation followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material) • Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.
Waste treatment options	Not Available
Sewage disposal options	Not Available

SECTION 14 TRANSPORT INFORMATION

Labels Required

Continued...

	
Marine Pollutant	
HAZCHEM	2X

Land transport (ADR-RID)

14.1. **UN number or ID number**	1759	
14.2. **UN proper shipping name**	CORROSIVE SOLID, N.O.S. sodium chlorite; troclosene sodium	
14.3. **Transport hazard class(es)**	Class	8
	Subsidiary Hazard	Not Applicable
14.4. **Packing group**	III	
14.5. **Environmental hazard**	Environmentally hazardous	
14.6. **Special precautions for user**	Hazard identification (Kemler)	80
	Classification code	C10
	Hazard Label	8
	Special provisions	274
	Limited quantity	5 kg
	Transport Category	3
	Tunnel Restriction Code	E

Air transport (ICAO-IATA / DGR)

14.1. **UN number**	1759	
14.2. **UN proper shipping name**	Corrosive solid, n.o.s. * sodium chlorite; troclosene sodium	
14.3. **Transport hazard class(es)**	ICAO/IATA Class	8
	ICAO / IATA Subsidiary Hazard	Not Applicable
	ERG Code	8L
14.4. **Packing group**	III	
14.5. **Environmental hazard**	Environmentally hazardous	
14.6. **Special precautions for user**	Special provisions	A3 A803
	Cargo Only Packing Instructions	864
	Cargo Only Maximum Qty / Pack	100 kg
	Passenger and Cargo Packing Instructions	860
	Passenger and Cargo Maximum Qty / Pack	25 kg
	Passenger and Cargo Limited Quantity Packing Instructions	Y845
	Passenger and Cargo Limited Maximum Qty / Pack	5 kg

Sea transport (IMDG-Code / GGVSee)

14.1. **UN number**	1759	
14.2. **UN proper shipping name**	CORROSIVE SOLID, N.O.S. sodium chlorite; troclosene sodium	
14.3. **Transport hazard class(es)**	IMDG Class	8
	IMDG Subsidiary Hazard	Not Applicable
14.4. **Packing group**	III	
14.5. **Environmental hazard**	Marine Pollutant	
14.6. **Special precautions for user**	EMS Number	F-A, S-B
	Special provisions	223 274
	Limited Quantities	5 kg

Inland waterways transport (ADN)

14.1. **UN number**	1759	
14.2. **UN proper shipping name**	CORROSIVE SOLID, N.O.S. sodium chlorite; troclosene sodium	
14.3. **Transport hazard class(es)**	8	Not Applicable
14.4. **Packing group**	III	
14.5. **Environmental hazard**	Environmentally hazardous	
	Classification code	C10

Continued...

14.6. **Special precautions for user**		
	Special provisions	274
	Limited quantity	5 kg
	Equipment required	PP, EP
	Fire cones number	0

14.7. Maritime transport in bulk according to IMO instruments

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

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
adipic acid	Not Applicable
sodium dichloroisocyanurate	Not Applicable
calcium chloride	Not Applicable
sodium chlorite	Not Applicable
sodium bicarbonate	Not Applicable

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
adipic acid	Not Applicable
sodium dichloroisocyanurate	Not Applicable
calcium chloride	Not Applicable
sodium chlorite	Not Applicable
sodium bicarbonate	Not Applicable

SECTION 15 REGULATORY INFORMATION

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

ADIPIC ACID IS FOUND ON THE FOLLOWING REGULATORY LISTS

- European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI (ATP21)
- Europe EC Inventory
- European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)
- Europe European Customs Inventory of Chemical Substances- ECICS
- Great Britain GB mandatory classification and labelling list (GB MCL List)

SODIUM DICHLOROISOCYANURATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

- European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI (ATP21)
- Europe EC Inventory
- European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)
- Europe European Customs Inventory of Chemical Substances- ECICS
- Great Britain GB mandatory classification and labelling list (GB MCL List)
- Great Britain GB Biocidal Active Substances
- UK Eurotunnel's dangerous goods guide 2023 - List of dangerous goods accepted

CALCIUM CHLORIDE IS FOUND ON THE FOLLOWING REGULATORY LISTS

- European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI (ATP21)
- Europe EC Inventory
- European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)
- Europe European Customs Inventory of Chemical Substances- ECICS
- Great Britain GB mandatory classification and labelling list (GB MCL List)

SODIUM CHLORITE IS FOUND ON THE FOLLOWING REGULATORY LISTS

- EU European Chemicals Agency (ECHA) Community Rolling Action Plan (CoRAP) List of Substances
- Europe EC Inventory
- European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)
- Europe European Customs Inventory of Chemical Substances- ECICS
- Great Britain GB Biocidal Active Substances
- International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

SODIUM BICARBONATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

- Europe EC Inventory
- European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)
- Europe European Customs Inventory of Chemical Substances- ECICS
- Great Britain GB Biocidal Active Substances

Additional Regulatory Information

Not Applicable

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

Seveso Category	E2

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

ECHA SUMMARY

Ingredient	CAS number	Index No	ECHA Dossier

Continued...

adipic acid	124-04-9	607-144-00-9	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Eye Irrit. 2	GHS07; Wng	H319
2	Eye Dam. 1; Aquatic Chronic 3	GHS05; Dgr	H318; H412

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

Ingredient	CAS number	Index No	ECHA Dossier
sodium dichloroisocyanurate	51580-86-0*	613-030-01-7, 613-030-00-X	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Ox. Sol. 2; Acute Tox. 4; Eye Irrit. 2; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1	GHS03; GHS07; GHS09; Dgr	H272; H302; H319; H335; H410
2	Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1; Ox. Sol. 2	GHS03; GHS05; GHS09; Dgr	H272; H302; H314; H335; H410; H319; H400
1	Acute Tox. 4; Eye Irrit. 2; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1	GHS07; GHS09; Wng	H302; H319; H335; H410
2	Acute Tox. 4; Eye Irrit. 2; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1	GHS07; GHS09; Wng	H302; H319; H335; H410; H400; H315

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

Ingredient	CAS number	Index No	ECHA Dossier
calcium chloride	10043-52-4	017-013-00-2	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1		Wng	H319
2		Wng	H319
1	Eye Irrit. 2	GHS07; Wng	H319
2	Eye Irrit. 2; Acute Tox. 4; Skin Irrit. 2; Aquatic Chronic 2; Acute Tox. 4; Acute Tox. 4; STOT SE 3	GHS07; Wng; GHS09	H319; H302; H411; H315; H312; H332; H335
1	Eye Irrit. 2	GHS07; Wng	H319
2	Eye Irrit. 2	GHS07; Wng	H319
1	Eye Irrit. 2	GHS07; Wng	H319
2	Eye Irrit. 2	GHS07; Wng	H319

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

Ingredient	CAS number	Index No	ECHA Dossier
sodium chlorite	7758-19-2*	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Ox. Sol. 2; Acute Tox. 3; Acute Tox. 2; Skin Corr. 1B; Eye Dam. 1; STOT RE 2; Aquatic Acute 1	GHS03; GHS08; GHS09; GHS05; GHS06; Dgr	H272; H301; H310; H314; H318; H373; H400
2	Ox. Sol. 1; Acute Tox. 3; Acute Tox. 2; Skin Corr. 1B; STOT RE 2; Aquatic Acute 1; Eye Dam. 1; Acute Tox. 2; STOT SE 3; Aquatic Chronic 1; STOT SE 2; Carc. 1B	GHS03; GHS08; GHS05; GHS09; GHS06; Dgr	H271; H301; H310; H314; H373; H410; H318; H400; H330; H335; H371; H290

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

Ingredient	CAS number	Index No	ECHA Dossier
sodium bicarbonate	144-55-8	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Not Classified	Not Available	Not Available
2	Skin Irrit. 2; Eye Dam. 1; Acute Tox. 4; STOT SE 3	GHS07; Wng	H319; H315; H332; H335

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

Additional State Regulatory Information

Not Available

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (adipic acid, sodium dichloroisocyanurate, calcium chloride, sodium chlorite, sodium bicarbonate)
China - IECSC	Yes

Continued...

Columbia - Columbia National Industrial Chemicals Inventory	No (adipic acid, sodium dichloroisocyanurate, calcium chloride, sodium chlorite, sodium bicarbonate)
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	All chemical substances in this product have been designated as TSCA Inventory ‘Active'
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
UAE - Control List (Banned/Restricted Substances)	No (adipic acid, sodium dichloroisocyanurate, sodium chlorite, sodium bicarbonate)
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.*

SECTION 16 OTHER INFORMATION

Revision Date	03/06/2026
Initial Date	03/06/2026

SDS Version Summary

Version	Issue Date	Sections Updated
0.5	03/06/2026	Disposal considerations - Disposal, Toxicological information - Acute Health (skin), Physical and chemical properties - Physical Properties, Hazards identification - Classification, Identification of the substance / mixture and of the company / undertaking - Supplier Information

Full text Risk and Hazard codes

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.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H371	May cause damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Other information

Ingredients with multiple cas numbers

Name	CAS No
calcium chloride	10043-52-4, 139468-93-2, 10035-04-8, 22691-02-7, 7774-34-7, 25094-02-4
sodium bicarbonate	144-55-8, 1182403-48-0, 151127-72-9, 172672-17-2, 196216-68-9, 199723-76-7, 246180-97-2, 276253-15-7, 29136-18-3

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

Continued...

- TEEL: Temporary Emergency Exposure Limit。
- IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard
- 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
- DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration
- MARPOL: International Convention for the Prevention of Pollution from Ships
- IMSBC: International Maritime Solid Bulk Cargoes Code
- IGC: International Gas Carrier Code
- IBC: International Bulk Chemical Code
- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- NDSL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European INventory of Existing Commercial chemical Substances
- ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
- PICCS: Philippine Inventory of Chemicals and Chemical Substances
- TSCA: Toxic Substances Control Act
- TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	Classification Procedure
Acute Toxicity (Dermal) Category 4, H312	Expert judgement
Skin Corrosion/Irritation Category 1B, H314	Calculation method
Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, H335	Expert judgement
Hazardous to the Aquatic Environment Long-Term Hazard Category 2, H411	Calculation method

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