

3.2 Mixtures Substances in preparations / mixtures

OSHA HCS (29 CFR 1910.1200)

Chemical identity of the substance	Common names, trade names, synonyms, etc.	%W/W	CAS No.	EC No.	Hazard classification
Sodium chlorite	Chlorous acid, sodium salt	≥0.25 - <1	7758-19-2	231-836-6	Oxidising liquid, Category 1 Acute toxicity, Category 3, Oral Acute toxicity, Category 2, Dermal Skin corrosion/irritation, Category 1 Specific target organ toxicity — repeated exposure, Category 2 Hazardous to the aquatic environment, Chronic , Category 1 (M-factor = 1)

SECTION 4: FIRST AID MEASURES



Description of first aid measures

Self-protection of the first aider

Inhalation

Skin Contact

Eye Contact

Ingestion

Most important symptoms and effects, both acute and delayed

Indication of any immediate medical attention and special treatment needed

No action should be taken involving personal risk. Use personal protective equipment as required. Ensure adequate ventilation. Avoid breathing vapours. Avoid contact with skin and eyes. Avoid contact with heated or molten product.

IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.

IF ON SKIN: Gently wash with plenty of soap and water. If irritation develops and persists, get medical attention.

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

IF SWALLOWED: Rinse mouth. Give plenty of water to drink.

None Known

Unlikely to be required but if necessary treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Unsuitable extinguishing Media

Special hazards arising from the substance or mixture

Advice for fire-fighters

As appropriate for surrounding fire. Water spray, foam, dry powder or CO2.

Do not use water jet. Direct water jet may spread the fire.

Not flammable. None known.

Portable containers should be moved if possible and without risk. Fire fighters should wear complete protective clothing including self-contained breathing apparatus. and Chemical protection suit. Keep containers cool by spraying with water if exposed to fire. Avoid release to the environment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Methods and material for containment and cleaning up

Caution - spillages may be slippery. No action should be taken involving personal risk. No action should be taken involving personal risk. Wear suitable protective clothing. Ensure adequate ventilation. Avoid breathing vapours. Avoid contact with skin and eyes.

Small spillages: Allow small spillages to evaporate provided there is adequate ventilation.

Large spillages: Shut off leaks if without risk. Absorb spillage in suitable inert material. Sweep up and shovel into waste drums or plastic bags. Ventilate the area and wash spill site after material pick-up is complete. Flush spill area with copious amounts of water.

Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into soil must be alerted to the appropriate regulatory body.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Wear suitable protective clothing. Ensure adequate ventilation. Avoid breathing vapours. Do not eat, drink or smoke when using this product. Remove contaminated clothing and wash clothing before reuse.

Conditions for safe storage, including any incompatibilities

Keep only in original packaging. Keep in a cool, well ventilated place. Store in a dry place. Keep away from heat and direct sunlight.

Storage temperature
Incompatible materials

Store at room temperature. Do not allow material to freeze.

Keep away from oxidising substances. Avoid contact with acids and alkalis. Keep away from: Wood, Rubber, Aluminium, Copper and Alloys.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational Exposure Limits

Substance	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note	Source
Titanium Dioxide	13463-67-7	-	15	-	-		OSHA
		-	10	-	-	A4	ACGIH

Notes:

A4: Not classified as a human carcinogen
NIOSH: Ca, Appendix A

Source:

NIOSH: National Institute for Occupational Safety and Health (NIOSH) Recommended exposure limits (RELs)
OSHA Permissible Exposure Limit (PEL): Occupational Safety and Health Standards, 1910.1000 TABLE Z-1
ACGIH: American Conference of Governmental Industrial Hygienists - Threshold limit values (TLV) 2017s

Biological limit value

Not established.

PNECs and DNELs

Not applicable

Exposure controls

Appropriate engineering controls

Provide adequate ventilation when using the material and follow the principles of good occupational hygiene to control personal exposures. Remove contaminated clothing and gloves and wash before re-use.

Individual protection measures, such as personal protective equipment (PPE)

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier. Use personal protective equipment as required. Take care for general good hygiene and housekeeping. Avoid breathing vapours. Do not eat, drink or smoke at the work place.

Eye/face protection

Wear eye protection with side protection ((Recommended: EN166).



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Skin protection



Hand protection: Wear impervious gloves (EN374). Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Suitable materials for this product are: PVC, nitrile rubber or Polychloroprene - CR.

Body protection: Wear work clothes with long sleeves.

Respiratory protection



Not normally required. In case of inadequate ventilation wear respiratory protection. Wear a full face respirator conforming to EN136 with Type A filter or better. Recommended: EN143 Type A-P2

Thermal hazards

Not applicable.

Environmental Exposure Controls

Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Liquid
Odour	None
Odour Threshold	Not established
pH	10.5 – 11.2
Melting Point/Freezing Point	< 0 °C
Initial boiling point and boiling range	101 °C
Flash point	Not established
Evaporation Rate	Not established
Flammability (solid, gas)	Not applicable - Liquid
Upper/lower flammability or explosive limits	Not applicable - Liquid
Vapour pressure	Not established
Vapour density	Not established
Relative density	1.18 – 1.22
Solubility(ies)	Miscible with water.
Partition coefficient: n-octanol/water	Not established
Auto-ignition temperature	Not established
Decomposition Temperature	Not established
Viscosity	60 – 100 cP
Explosive properties	Not explosive
Oxidising properties	Not oxidising

9.2 Other information

None known

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerisation will not occur.
Conditions to avoid	High Temperature, Temperatures below freezing as this may damage the product.
Incompatible materials	Keep away from oxidising substances. Avoid contact with acids and alkalis. Keep away from: Wood, Rubber, Aluminium, Copper and Alloys.
Hazardous decomposition product(s)	Combustion products: chlorine compounds

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity - Ingestion

Mixture: Based upon the available data, the classification criteria are not met.



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Acute toxicity - Inhalation

Calculated acute toxicity estimate (ATE) >2,000 mg/kg.
Mixture: Based upon the available data, the classification criteria are not met.

Acute toxicity - Skin Contact

Calculated acute toxicity estimate (ATE) >20 mg/l
Mixture: Based upon the available data, the classification criteria are not met.

Skin corrosion/irritation

Sodium Chlorite

Calculated acute toxicity estimate (ATE) > 2,000 mg/kg.
Mixture: Based upon the available data, the classification criteria are not met.
Skin corrosion/irritation, Category 1

Serious eye damage/irritation

Sodium Chlorite

Causes skin necrosis. (rabbit) (OECD404)
Mixture: Based upon the available data, the classification criteria are not met.
Skin corrosion/irritation, Category 1

Respiratory or skin sensitization

Germ cell mutagenicity

Carcinogenicity

Titanium dioxide

Causes skin necrosis. (rabbit) (OECD404)
Mixture: Based upon the available data, the classification criteria are not met.

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Mixture: Based upon the available data, the classification criteria are not met.
Titanium dioxide is listed by IARC as a Group 2B substance (possibly carcinogenic to humans), however, IARC monographs Vol. 93 states that exposure levels are assumed to be lower in the user industries, with the possible exception of workers who handle large quantities of titanium dioxide. Titanium dioxide in this mixture is mostly in a bound form. Therefore no significant exposure to titanium dioxide is thought to occur during the use of this product.

Reproductive toxicity

STOT - single exposure

STOT - repeated exposure

Sodium Chlorite

Mixture: Based upon the available data, the classification criteria are not met.

Mixture: Based upon the available data, the classification criteria are not met.

Mixture: Specific target organ toxicity — repeated exposure, Category 2

Specific target organ toxicity — repeated exposure, Category 2

NOAEL: 10 mg/kg/day. Adverse effects observed - adult mortality, haematological and histopathological changes of the spleen (rat) (OECD408) (Harrington RM et al., 1995)

Aspiration hazard

Mixture: Based upon the available data, the classification criteria are not met.

Information on likely routes of exposure

Inhalation

Ingestion

Skin Contact

Eye Contact

Possible – accidental exposure

Possible – accidental exposure

Possible – accidental exposure

Unlikely – accidental exposure

Early onset symptoms related to exposure

None known

Delayed health effects from exposure

None known

Exposure levels and health effects

See Section: 8

Interactive effects

None known

Other information

OSHA Designated Carcinogen

NIOSH Occupational Carcinogen List

NTP Report on Carcinogens

IARC Monographs

No components of the mixture are listed

Titanium dioxide

No components of the mixture are listed

Titanium dioxide – IARC Classification: Group 2B.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Sodium chlorite

Mixture: Hazardous to the aquatic environment, Chronic, Category 3

Estimated LC50 (96 hour) Fish > 10 mg/l ≤ 100 mg/l

Aquatic Chronic 1; H410

Acute: LC50 (fish) mg/l (96 hour) 105 (EPA OPP 72-1)

Chronic: EC50 (Daphnia magna) mg/l (22 days) 0.085 (OECD 211)

Persistence and degradability

Sodium chlorite

No data for the mixture as a whole.

Not applicable for inorganic substances

Bioaccumulative potential

No data for the mixture as a whole.



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Sodium chlorite

Mobility in soil

Sodium chlorite

Results of PBT and VPVB assessment

Other adverse effects

The substance has low potential for bioaccumulation.

Log Kow \leq 3

No data for the mixture as a whole.

The substance has low mobility in soil.

Log Kow \leq 3

Not classified as PBT or vPvB.

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Dispose of wastes in an approved waste disposal facility. Avoid release to the environment. Recover or recycle if possible. Dilute with a large volume of water. Disposal should be in accordance with local, state or national legislation. Recover or recycle if possible.

SECTION 14: TRANSPORT INFORMATION

	Road/Rail (ADR/RID)	Sea transport (IMDG)	Air (ICAO/IATA)
UN number	Not classified as dangerous for transport.	Not classified as dangerous for transport.	Not classified as dangerous for transport.
UN proper shipping name	Not classified	Not classified	Not classified
Transport hazard class(es)	Not classified	Not classified	Not classified
Packing group	Not classified	Not classified	Not classified
Environmental hazards	Not classified	Not classified as a Marine Pollutant.	Not classified
Special precautions for user	See Section: 2		
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable		
Additional Information	None		

SECTION 15: REGULATORY INFORMATION

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

US Federal Regulations

TSCA Chemical Data Reporting (CDR) Rule

NIOSH Occupational Carcinogen List

EPCRA Section 313

CWA 307- Toxic

CERCLA - Hazardous Substances

CWA Section 311 List of Hazardous Substances

Titanium dioxide, Silicic acid, sodium salt, Sodium Chlorite, Sodium hydroxide - Subject to 25,000lb reporting threshold

Titanium dioxide

No components of the mixture are listed

No components of the mixture are listed

Sodium hydroxide - Product RQ (lbs): 1000

Sodium hydroxide

US State Regulations

Proposition 65 (California)

Massachusetts, New Jersey, Pennsylvania, Rhode Island- State Right to Know Lists

New York -State Right to Know Lists

Minnesota - State Right to Know Lists

Massachusetts – Toxic Use reduction act

Titanium dioxide - airborne, unbound particles of respirable size

Titanium dioxide - MSL, RTKHSL

Sodium Chlorite – RTKHSL

Sodium hydroxide – MSL, RTKHSL, SHHSL

Titanium dioxide, Sodium hydroxide - Hazardous Substance List - TRQ = 100 lbs

Titanium dioxide, Sodium hydroxide – CHC

No components of the mixture are listed

Non-Regional

IARC Monographs

Titanium dioxide - IARC Classification: Group 2B.



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SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1, 11. Updated version and date. Please review SDS with care. See below:

Sections indicated with the following have been revised

Version: 3.1

Date of preparation: 1st December 2020

Date Previous Issue: 24th April 2020

Classification of the substance or mixture in accordance with OSHA HCS (29 CFR 1910.1200) Appendices A and B.

LEGEND

ADR/RID	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road / RID: Regulations concerning the international railway transport of dangerous goods
BCF	Bioconcentration factor (BCF)
CAS	CAS: Chemical Abstracts Service
DNEL	Derived No Effect Level
EC	EC: European Community
EU	European Union
IATA	IATA: International Air Transport Association
ICAO/IATA	ICAO: International Civil Aviation Organization / IATA: International Air Transport Association
IMDG	IMDG: International Maritime Dangerous Goods
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No Effect Concentration
UN	United Nations
vPvB	very Persistent and very Bioaccumulative

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

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Issue Date: March 1, 2022

Effective Date: March 1, 2022

Expiry Date: March 1, 2025

Prepared by :
Dryden Aqua Ltd
Butler Industrial Estate
Bonnyrigg
Edinburg EH19 3JQ
GB – PH: +44(0) 18758-22222