

### Chlorine Dioxide Disinfection Tablets

## Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

### 1.1 Product identifier

Trade name	Substance name	Index Number	CAS number	REACH Registration No
Hydro Dioxide Pool	Mixture	N/A	N/A	N/A
Hydro Dioxide Spa	Mixture	N/A	N/A	N/A

Other means of identification	
Unique product identification code	UFI code C2NN-GTNK-AWOT-JJU5

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

Relevant identified uses	
Use of the Substance/Mixture	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 the water treatment and disinfection. Chlorine dioxide (CAS-No 10049-04-4) generated in situ from sodium chlorite by acidification and oxidation.
Exposure scenarios	There are no exposure scenarios currently available or required specifically for the product. Only those for the main component (sodium chlorite) that are applicable to applications the product is intended for are included in Annex 1 of this data sheet.
Uses advised against	At this time, we do not yet have information on advised against uses

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

Company Name and Address	Telephone	Email of Competent Person Responsible for the SDS
Hydro Finesse H1 Ash Tree Court, Mellors Way, Nottingham Business Park, Nottingham, England, NG8 6PY	07966 071973	sales@hydrodioxide.com

## 1.4 Emergency telephone number

Contact details	Telephone	Availability
Scotmas	01573 226901	Monday to Friday 9.00 AM to 17:00

## Section 2: Hazards Identification

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008	
Physical and chemical hazards	Not classified
Human health	Acute Toxicity Category 4 Skin Corr. 1B Specific target organ single exposure. Category 3 H312: Harmful in contact with skin H314: Causes severe skin burns and eye damage H335: May cause Respiratory irritation
Potential environmental effects	Chronic aquatic toxicity category 2 H411: Toxic to aquatic organisms with long lasting effects
Other classifications	EUH032 Contact with acid liberates very toxic gas
Most important adverse effects	
Human health	Not classified
Physical and chemical hazards	Harmful by skin contact. Irritating to eyes and skin. Risk of serious damage to eyes. Specific target organ single exposure. Category 3. Respiratory system See section 11 for toxicological information.
Potential environmental effects	May give off toxic chlorine dioxide gas on contact with acids, if heated or exposed to strong sunlight, which may cause explosion risk. Contact with reducing agent or sulphur containing substances may cause a violent exothermic reaction See section 9 for physiochemical information.
Potential environmental effects	Chronic aquatic toxicity category 2 See section 12 for environmental information

## 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008		
Hazard Pictogram(s)		
Signal word(s)	<b>Danger</b>	
Hazard statement(s)	H312	Harmful in contact with skin
	H314	Causes severe skin burns and eye damage
	H335	May cause Respiratory irritation
	H411	Toxic to aquatic organisms with long lasting effects
Precautionary statement(s)		
Prevention	P102	Keep out of reach of children
Response	P280	Wear protective gloves / protective clothing / eye protection / face protection
	P312	Call a POISON CENTRE or doctor/physician if you feel unwell.
	P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
	P303 + P361 + P353	IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / 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.
Disposal	None	None
Other labelling information		
	EUH032	Contact with acid liberates very toxic gas
Further information	None	

## 2.3. Other hazards

Other hazards
<p>Does not contain any endocrine disrupting substances.</p> <p>For Results of PBT and vPvB assessment see section 12.5</p>

# Section 3: Compositional Information On Ingredients

## 3.1. Mixtures

Chemical Nature		Solid		
Hazardous components		Amount [%]	Classification (REGULATION (EC) No 1272/2008)	
			Hazard class / Hazard category	Hazard statements
<b>Adipic acid</b>		40-45%	Eye Irrit.1	H318
Index No.	607-144-00-9			
CAS No.	124-04-9			
EC No.	204-673-3			
REACH Registration No.	01-2119457561-38-XXXX			
<b>Sodium chlorite</b>		8.95-9.95%	Ox Sol. 2 Acute Tox. Oral. 3 Acute Tox. Inh. 2 Acute Tox. Derm. 2 Skin Corr. 1B Acute Aq. Tox. 1	H272 H301 H310 + H330 H314 H400 EUH032
Index No.	N/A			
CAS No.	7758-19-2			
EC No.	231-836-6			
REACH Registration No.	01-2119529240-51-XXXX			
<b>Calcium di chloride</b>		10-13%	Eye Irrit.2	H319
Index No.	N/A			
CAS No.	10043-52-4			
EC No.	233-140-8			
REACH Registration No.	01-2119494219-28-XXXX			
<b>Troclosene sodium anhydrous (Sodium di chloro isocyanurate)</b>		10-13%	Ox Sol. 2 Acute Tox. 4 Eye Irrit. 2 STOT SE 3 Aquatic Acute 1 Aquatic Chronic 1	H272 H302 H319 H335 H400 H410 EUH031
Index No.	N/A			
CAS No.	2893-78-9			
EC No.	220-767-7			
REACH Registration No.	01-2119489371-33-0000			
For the full text of the H-Statements mentioned in this Section, see Section 16.				

# Section 4: First Aid Measures

## 4.1. Description of first aid measures

First aid measures	
General advice	Take off all contaminated clothing immediately. Never give anything by mouth to an unconscious person. When symptoms persist or in all cases of doubt seek medical advice.
Inhalation of Vapour	Move to fresh air. If not breathing, give artificial respiration. Call a poison control centre or doctor for treatment advice.
Eye contact	Rinse immediately with plenty of water and seek medical advice.
Skin contact	Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water. Call a poison control centre or doctor for treatment advice.
Ingestion	Call a poison control centre or doctor for treatment advice. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

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

Symptoms and effects	
Symptoms	See Section 11 for more detailed information on health effects and symptoms
Effects	See Section 11 for more detailed information on health effects and symptoms

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

Treatment	
Treatment	Treat symptomatically.

# Section 5: Firefighting Measures

## 5.1. Extinguishing media

Extinguishing media	
Suitable extinguishing media	Foam, Sand, Dry powder, Water spray The product itself does not burn. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	Carbon dioxide (CO <sub>2</sub> )

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

Special hazards	
Specific hazards during fire fighting	Hazardous decomposition products formed under fire conditions. Acrid fumes - Sodium oxides (see also section 10)

## 5.3. Advice for fire-fighters

Advice	
Special protective equipment for fire-fighters	In the event of fire, wear self-contained breathing apparatus. Wear personal protective equipment.
Further information	Evacuate personnel to safe areas. Evacuate personnel and keep upwind of fire. Keep containers and surroundings cool with water spray. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

# Section 6: Accidental Release Measures

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

Precautions	
Personal precautions	Evacuate personnel to safe areas. Wear personal protective equipment. Avoid contact with the skin and the eyes.

## 6.2. Environmental precautions

Precautions	
Environmental precautions	Prevent material from entering sewers, waterways, or low areas. If the product contaminates rivers and lakes or drains inform respective authorities.

## 6.3. Methods and materials for containment and cleaning up

Precautions	
Methods and materials for containment and cleaning up	Dilute with water. Pick up and transfer to properly labelled containers. After cleaning, flush away traces with water. Or where applicable absorb with liquid-binding non-combustible material (sand, diatomite, acid binders, and universal binders). Keep in suitable, closed containers for disposal. Flush away residuals with plenty of water.
Further information	Treat recovered material as described in the section 13 "Disposal considerations".

## 6.4. Reference to other sections

Other sections
See Section 8 for information on personal protective equipment. See Section 13 for waste treatment information.

# Section 7: Handling and Storage

## 7.1. Precautions for safe handling

Precautions	
Advice on safe handling	"Avoid contact with skin, eyes and clothing. Avoid formation of aerosol. Avoid inhalation of vapour or mist. Wear personal protective equipment. Use only in well-ventilated areas. Keep container tightly closed."
Hygiene measures	"Keep away from food, drink and animal feeding stuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Provide adequate ventilation. Avoid contact with the skin and the eyes."

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

Precautions	
Requirements for storage areas and containers	"Store in original container. Keep container tightly closed and stored in a dry, cool and well-ventilated place. Avoid heat, freezing and ultraviolet light."
Advice on protection against fire and explosion	Avoid heat.
Advice on common storage	"Keep away from: Strong acids and oxidizing agents. Keep away from food, drink and animal feeding stuffs."

## 7.3. Specific end use(s)

Precautions	
Specific use(s)	No information available.

# Section 8: Exposure Controls/Personal Protection

## 8.1. Control parameters

Component: Adipic Acid CAS No. 124-04-9	
Derived No Effect Level (DNEL)	Has no occupational exposure limit values
Derived Minimal Effect Level (DMEL)	Has no occupational exposure limit values
Predicted No Effect Concentration (PNEC)	Has no occupational exposure limit values
Other Occupational Exposure Limit Values	Has no occupational exposure limit values

Component: Sodium chlorite CAS No. 7758-19-2		
Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)	"Type of Application (Use): Workers Exposure routes: Skin contact Health Effect: Acute - systemic effects"	0.58 mg/kg body weight (bw) /day
	"Type of Application (Use): Workers Exposure routes: Skin contact Health Effect: Long-term - systemic effects"	0.58 mg/kg body weight (bw) /day
	"Type of Application (Use): Workers Exposure routes: Inhalation Health Effect: Acute - systemic effects"	0.41 mg/m <sup>3</sup>
	"Type of Application (Use): Workers Exposure routes: Inhalation Health Effect: Long-term - systemic effects"	0.41 mg/m <sup>3</sup>
	"Type of Application (Use): Consumers Exposure routes: Skin contact Health Effect: Acute - systemic effects"	0.29 mg/kg body weight (bw) /day
	"Type of Application (Use): Consumers Exposure routes: Inhalation Health Effect: Acute - systemic effects"	0.1 mg/m <sup>3</sup>
	"Type of Application (Use): Consumers Exposure routes: Skin contact Health Effect: Long-term - systemic effects"	0.29 mg/kg body weight (bw) /day
	"Type of Application (Use): Consumers Exposure routes: Inhalation Health Effect: Long-term - systemic effects"	0.1 mg/m <sup>3</sup>
	"Type of Application (Use): Consumers Exposure routes: Ingestion Health Effect: Long-term - systemic effects"	0.029 mg/kg body weight (bw) /day

<b>Predicted No Effect Concentration (PNEC)</b>	Fresh water	0.00065 mg/l
	Marine water	0.000065 mg/l
	Intermittent releases	0.000006 mg/l
	Sewage treatment plant (STP)	1 mg/l
<b>Other Occupational Exposure Limit Values</b>	EU ELV, Short Term Exposure Limit (STEL):	none
<b>Other Occupational Exposure Limit Values</b>	EH40 WEL, Time Weighted Average (TWA): Gas and aerosol mists.	none
	EH40 WEL, Short Term Exposure Limit (STEL): Gas and aerosol mists.	none
	ELV (IE), Time Weighted Average (TWA):	none
	ELV (IE), Short Term Exposure Limit (STEL):	None
	Component: Calcium chloride CAS No. 10043-52-4	
<b>Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)</b>	Has no occupational exposure limit values	
	Has no occupational exposure limit values	
<b>Predicted No Effect Concentration (PNEC)</b>	Has no occupational exposure limit values	
<b>Other Occupational Exposure Limit Values</b>	Has no occupational exposure limit values	
	Component: Troclosen sodium di hydrate CAS No. 2893-78-9	
<b>Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)</b>	Has no occupational exposure limit values	
	Has no occupational exposure limit values	
<b>Predicted No Effect Concentration (PNEC)</b>	Has no occupational exposure limit values	
<b>Other Occupational Exposure Limit Values</b>	Has no occupational exposure limit values	

## 8.2 Exposure Controls

Advice	
Personal protective equipment	Avoid exposure - obtain special instructions before use.
Respiratory protection	"Provide adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment."
Hand protection	Impervious gloves: Material: Neoprene gloves; Polyvinyl chloride - PVC
Eye protection	Wear overall chemical splash goggles. Additionally wear a face shield where the possibility exists for face contact due to splashing, spraying or airborne contact with this material.
Skin and body protection	Where there is potential for skin contact, have available and wear as appropriate, impervious gloves, apron, pants, jacket, hood and boots.
Hygiene measures	Avoid contact with skin, eyes and clothing. Wash hands before breaks and at the end of workday.
Environmental exposure controls	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities.

## Section 9: Physical and Chemical Properties

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

Basic physical and chemical properties			
Physical state	Solid	pH	No data
Colour	Off white	Kinematic viscosity	No data
Odour	Slight chlorine	Water solubility	miscible
Melting Point/ Freezing Point	No data	Partition coefficient: n-octanol/water	No data available
Initial Boiling Point and boiling range	Not applicable	Relative vapour density	No data available
Flammability (solid gas)	Not applicable	Relative Density	1.5-1.7g/cm <sup>3</sup> (20°C)
Upper and Lower explosion limit	Not applicable	Decomposition temperature	Stable under normal conditions. Decomposes on heating.
Flash point	Not applicable	Particle properties	No data
Auto ignition temperature	Not applicable	Explosive properties	Product is not explosive
Viscosity dynamic	No data available		

## 9.2 Other information

### 9.2.1 Information with regard to physical chemical classes

Oxidising liquids	The mixture has oxidising properties
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### 9.2.2 Other safety characteristics

No other information available

## Section 10: Stability and Reactivity

### 10.1 Reactivity

#### Advice

Stable under recommended storage conditions. Decomposes on heating.

### 10.2 Chemical stability

#### Advice

Stable under normal conditions.  
Decomposes on heating.

### 10.3 Possibility of hazardous reaction

#### Hazardous reactions

Contact with water, acids, organic materials, reducing agents and oxidizing agents will release toxic gases of chlorine and/or chlorine dioxide.

### 10.4 Conditions to avoid

#### Conditions to avoid

Conditions to avoid	"Stable under normal conditions. Decomposes on heating. Protect from atmospheric moisture."
Thermal decomposition	Decomposes on heating.

## 10.5 Incompatible materials

### Materials to avoid

Strong acids and oxidizing agents  
Reducing agents  
Organic materials  
Chlorinated compounds

## 10.6 Hazardous decomposition products

### Hazardous decomposition products

Chlorine; Chlorine dioxide  
Under fire conditions:  
Oxygen; Acrid fumes; Sodium oxides

# Section 11: Toxicological Information

## 11.1 Information on toxicological effects

### Information on Product: Hydro Dioxide Tablets

<b>Acute toxicity</b>	Oral	Please find this information in the listing of the component/components below in this MSDS
	Inhalation	No data available
	Dermal	Please find this information in the listing of the component/components below in this MSDS
<b>Irritation</b>	Skin	Please find this information in the listing of the component/components below in this MSDS
	Eyes	Please find this information in the listing of the component/components below in this MSDS
<b>Sensitisation</b>	Result	Please find this information in the listing of the component/components below in this MSDS
<b>CMR</b>	Carcinogenicity	Please find this information in the listing of the component/components below in this MSDS
	Mutagenicity	Please find this information in the listing of the component/components below in this MSDS
	Teratogenicity	Please find this information in the listing of the component/components below in this MSDS
	Reproductive toxicity	Please find this information in the listing of the component/components below in this MSDS

<b>Specific target organ toxicity</b>	Single exposure	The substance or mixture is not classified as a specific target organ toxicant single exposure
	Repeated exposure	The substance or mixture is not classified as a specific target organ toxicant repeated exposure
<b>Aspiration risk</b>	Remark	No aspiration toxicity classification

#### Information on components – Adipic Acid CAS No. 124-04-9

<b>Acute toxicity</b>	Acute Oral	LD50 (Rat): 5,560 mg/kg
	Inhalation	LC50 (Rat): 7.7 mg/l
	Dermal	LD50 (Rabbit): 7,940 mg/kg
<b>Irritation</b>	Skin	Mild irritation
	Eyes	Risk of serious irritation to eyes
<b>Sensitisation</b>	Result	No sensitising effect known.
<b>CMR</b>	Carcinogenicity	No available data
	Mutagenicity	No available data
	Teratogenicity	No available data
	Reproductive toxicity	No available data
<b>Specific target organ toxicity</b>	Single exposure	No available data
	Repeated exposure	No available data
<b>Other toxic properties</b>	Aspiration risk	No aspiration toxicity classification
<b>Human experience</b>	Inhalation	Respiratory system: There may be irritation of the throat with a feeling of tightness in the chest.
	Skin contact	There may be mild irritation at the site of contact.
	Eye contact	There may be irritation and redness
	Ingestion	May cause discomfort if swallowed.

#### Information on components – Sodium chlorite CAS-No. 7758-19-2

<b>Acute toxicity</b>	Acute oral	LD50 (Rat): 284mg/kg
	Inhalation	No data
	Dermal	LD50 (Rabbit): 134 mg/kg
<b>Irritation</b>	Skin	Corrosive effects (rabbit)
	Eyes	Corrosive effects (rabbit). Risk of serious damage to eyes
<b>Sensitisation</b>	Result	Maximisation test, guinea pig. Result: Not sensitising

<b>CMR effects</b>	Carcinogenicity	Did not show carcinogenic effects in animal experiments
	Mutagenicity	Did not show mutagenic effects
	Teratogenicity	Did not show any developmental effects
	Reproductive toxicity	Animal testing did not show any effects on fertility
<b>Specific target organ toxicity</b>	Single exposure	No data
	Repeated exposure	Oral Rat Exposure time: 1 y, Gastrointestinal effects, Abnormal decrease in number of red blood cells, Abnormal decrease in red blood-cell haemoglobin (haemoglobinemia) Oral Monkey: altered haematology, altered blood chemistry
<b>Aspiration risk</b>	Remark	No aspiration toxicity classification
<b>Human experience (Excessive exposure)</b>	Inhalation	Respiratory system: Irritation, Cough
	Skin contact	Discomfort, Irritation, Itching, Redness
	Eye contact	Excessive lachrymation, Damage
	Ingestion	Gastrointestinal tract: Nausea, Pain, Weakness, Vomiting
<b>Information on components – Calcium chloride CAS-No. 10043-52-4</b>		
<b>Acute toxicity</b>	Acute oral	LD50 (Rat): 1,000mg/kg
	Inhalation	No data
	Dermal	LD50 (Rat): 2,630 mg/kg
<b>Irritation</b>	Skin	May cause skin irritation
	Eyes	Irritating to eyes
<b>Sensitisation</b>	Result	No available data
<b>CMR effects</b>	Carcinogenicity	No available data
	Mutagenicity	No available data
	Teratogenicity	No available data
	Reproductive toxicity	No available data
<b>Specific target organ toxicity</b>	Single exposure	No available data
	Repeated exposure	No available data
<b>Other toxic properties</b>	Aspiration risk	No aspiration toxicity classification

<b>Human experience</b> (Excessive exposure)	Inhalation	Respiratory system: Irritation
	Skin contact	Irritation
	Eye contact	Irritation
	Ingestion	No information
<b>Information on components – Troclosen sodium di hydrate CAS-No. 51580-86-0</b>		
<b>Acute toxicity</b>	Acute oral	No available data
	Inhalation	No available data
	Dermal	No available data
<b>Irritation</b>	Skin	Corrosive effects (rabbit)
	Eyes	Corrosive effects (rabbit) Risk of serious damage to eyes
<b>Sensitisation</b>	Result	Not sensitising (guinea pig maximisation test)
<b>CMR effects</b>	Carcinogenicity	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
	Mutagenicity	No available data
	Teratogenicity	No available data
	Reproductive toxicity	No available data
<b>Specific target organ toxicity</b>	Single exposure	May cause respiratory irritation.
	Repeated exposure	No available data
<b>Other toxic properties</b>	Aspiration risk	No available data
<b>Human experience</b> (Excessive exposure)	Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
	Skin contact	May be harmful if absorbed through skin. May cause skin irritation.
	Eye contact	Causes serious eye irritation.
	Ingestion	Harmful if swallowed.

## 11.2 Other information

### 11.2.1 Endocrine disrupting properties

<b>Endocrine disruptors</b>	Does not have endocrine disrupting properties
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### 11.2.1 Information on other hazards

<b>Other hazards</b>	No other information
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# Section 12: Ecological Information

## 12.1 Toxicity

Information on Product: Hydro Dioxide Tablets		
Acute toxicity	Fish	No product specific data. See information on components
	Toxicity to Daphnia and other invertebrates	No product specific data. See information on components
	Algae	No product specific data. See information on components
	Product classification	Very toxic to aquatic organisms. May cause long-term adverse effect in the aquatic environment
Information on Product: Adipic Acid		
Acute toxicity	Fish	LC50 (lethal concentration, 50%): Brachydanio rerio >1,000 mg/l (96 h; freshwater)
	Toxicity to Daphnia and other invertebrates	EC50 (effect concentration, 50%): Daphnia magna (Water flea) 46 mg/l (48h; freshwater)
	Algae	No data
Information on Product: Sodium chlorite		
Acute toxicity	Fish	LC50: Cyprinodon variegatus; 105 mg/l (96 h, freshwater)
	Toxicity to Daphnia and other invertebrates	"EC50: Daphnia magna; < 1.0 mg/l (48 h; freshwater) LC50: Americamysis bahia; 0.65 mg/l (96 h, salt water)"
	Algae	ErC50: Scenedesmus capricornutum; 1 mg/l (96 h, freshwater)
Information on Product: Calcium chloride		
Acute toxicity	Fish	LC50: no species given; >10,000 mg/l (96h)
	Toxicity to Daphnia and other invertebrates	EC50: Daphnia magna; >50 mg/l (48 h, freshwater)
	Algae	No data
Information on Product: Troclosen sodium dihydrate		
Acute toxicity	Fish	No data
	Toxicity to Daphnia and other invertebrates	No data
	Algae	No data
General information	Very toxic to aquatic organisms. May cause long-term adverse effects in the environment.	

## 12.2 Persistence and Degradability

Information on Product: Adipic Acid		
Biodegradability	Result	Readily biodegradable
Information on Product: Sodium chlorite		
Biodegradability	Result	According to the results of tests of biodegradability this product is not readily biodegradable
Information on Product: Calcium chloride		
Biodegradability	Result	Not biodegradable
Information on Product: Troclosene sodium di hydrate		
Biodegradability	Result	No data

## 12.3 Bioaccumulation Potential

Information on Product: Adipic Acid		
Bioaccumulation	Result	Does not bioaccumulate
Information on Product: Sodium chlorite		
Bioaccumulation	Result	Bioaccumulation is unlikely.
Information on Product: Calcium chloride		
Bioaccumulation	Result	Does not bioaccumulate
Information on Product: Troclosene sodium di hydrate		
Bioaccumulation	Result	No data available

## 12.4 Mobility in soil

Information on Product: Adipic Acid		
Mobility	Result	Soluble in water. No other data available
Information on Product: Sodium chlorite		
Mobility	Result	Soluble in water. No other data available
Information on Product: Calcium chloride		
Mobility	Result	Soluble in water. No other data available
Information on Product: Troclosene sodium di hydrate		
Mobility	Result	Soluble in water. No other data available

## 12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	
Result	This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). / This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

## 12.6 Endocrine disrupting properties

Endocrine disrupting properties	
Result	Does not have endocrine disrupting properties

## 12.7 Other adverse effects

Additional ecological Information	
Additional ecological Information	No data is available on the product itself.
Result	Do not flush into surface water or sanitary sewers Avoid subsoil penetration

# Section 13: Disposal Consideration

## 13.1 Waste treatment methods

Waste treatment methods	
Product	Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.
Contaminated packaging	Empty remaining contents thoroughly. They can be recycled after thorough cleaning. Packaging that cannot be cleaned are to be disposed of in the same manner as the product. Dispose of in accordance with local regulations.
European Waste Catalogue Number	No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

# Section 14: Transport Information

## 14.1 UN Number

UN Number
UN3077

## 14.2 Proper shipping name

Proper shipping name	
ADR	ENVIRONMENTALLY HAZARDOUS SOLID NOS (troclosene sodium)
RID	ENVIRONMENTALLY HAZARDOUS SOLID NOS (troclosene sodium)
IMDG	ENVIRONMENTALLY HAZARDOUS SOLID NOS (troclosene sodium)
IATA	ENVIRONMENTALLY HAZARDOUS SOLID NOS (troclosene sodium)

## 14.3 Transport hazard class(es)

Transport hazard class(es)	
ADR	Class 9, MISCELLANEOUS, HAZ ID CODE 90, TUNNEL CAT 3(-)
RID	Class 9, MISCELLANEOUS, HAZ ID CODE 90,
IMDG	Class 9, MISCELLANEOUS, MARINE POLLUTANT
IATA	Class 9, MISCELLANEOUS

## 14.4 Packing Group

Packing Group	
ADR	PG III
RID	PG III
IMDG	PG III
IATA	PG III

## 14.5 Environmental Hazards

Environmental Hazards	
ADR Labelling according to 5.2.1.8	Class 9, MISCELLANEOUS
RID Labelling according to 5.2.1.8	Class 9, MISCELLANEOUS
IMDG Labelling according to 5.2.1.6.3	Class 9, MISCELLANEOUS
IMDG Classification as environmentally hazardous according to 2.9.3	Class 9, MISCELLANEOUS, MARINE POLLUTANT
IATA	Class 9, MISCELLANEOUS

## 14.6 Special precautions for user

Other information.
<p>Exemption for small quantities of good classes as UN3077. This product is assigned special provision SP375 in ADR. Materials carried under UN3077 in either single or inner packaging of 5L or less for liquids or 5kg or less for solids, are not subject to any other provisions of ADR, provided they are packed in good quality packaging's and adhere to the general packaging provisions, in sections 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 of ADR.</p> <p>The same provision can be found in section 2.10.2.7 of IMDG and as Special Provision A197 in the current 57th edition of IATA.</p>

## 14.7 Transport in Bulk according to annex II/MARPOL 73/78 and the IBC code

Transport in Bulk according to annex II/MARPOL 73/78 and the IBC code	
IMDG	Not applicable

# Section 15: Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

Biocidal Product Regulations	
(EU) No. 528/2012	No authorisations or exemptions are currently required for placing the product on the market in the EU. Notifications are required in some EU countries. The product has been notified to the following member states competent authorities or can otherwise be placed on the market in the countries as indicated below. United Kingdom: Notifications are not required in the UK
EU Directives	Dangerous preparations directive (67/548/EEC) (1999/45/EC) SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006 Biocidal Product Regulation (BPR, Regulation (EU) 528/2012) REACH directive(2004/58/EC) CLP regulations (2008/1272/EC)

## 15.2 Chemical safety assessment

Chemical safety assessment
A Chemical Safety Assessment has been carried out for active component sodium chlorite.

# Section 16: Other Information

Issue information	
First issued 27/03/08	Authorised by K. Ferguson
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Significant changes at this revision
Section 1.1 trade name and UFI code added; Section 1.3 address updated; Section 2.3 updated; Section 8.1 updated to include CAS numbers; Section 9.1 updated; Section 9.2.1 added; Section 11.2 added; Section 12.7 added

## Full text of H- phrases for ingredients in section 2 and 3

H272	May intensify fire; oxidiser
H301	Toxic if swallowed
H302	Harmful if swallowed
H310 + H330	Fatal in contact with skin or if inhaled
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
EUH031	Contact with acids liberates toxic gas
EUH032	Contact with acids liberates very toxic gas

Since the users working conditions are not known by us, the information on this safety data sheets is based on our current level of knowledge and on national and community regulations

The product must not be used for any purpose other than those specified without first obtaining written handling instructions

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirement and local regulations.

The information given on this data sheet must be regarded as relating to the safety requirements relating to our products and not a guarantee of its properties

Observe all National, Federal and Local laws / Bylaws with regard to the use of this product. Always check with relevant regulatory authorities before use

### Disclaimer

Information on this form is furnished in compliance with current legislation. It is the responsibility of the recipient to pass on this information to relevant departments/persons involved. Hydro Finesse assumes no responsibility for injury or death resulting from the use/misuse of this product by the recipient and/or third persons, however caused. The user, bailee and their respective employees and agents assume all such risks if reasonable safety procedures are not adhered to.

# Annex 1 - Exposure scenarios

The exposure scenario provides specific information on how hazardous substances (as such or in a mixture) are to be managed and controlled. It considers specific conditions of use, in order to ensure that a use should be safe to humans and the environment. Identified risk management measures are to be implemented unless the downstream user is able to ensure safe use in a diverging way.

There are no exposure scenarios currently available or required specifically for the product. Only those for the main component (sodium chlorite) that are applicable to applications the product is intended for are included in with this data sheet. (Others are available on request)

These are:

ES9	Consumer use, Washing and cleaning products (including solvent based products), Indoor
ES10	Consumer use, Washing and cleaning products (including solvent based products), Outdoor
ES14	Industrial use, Formulation

All Exposure scenario for sodium chlorite including those not applicable for the intended use of this product are listed below

ES1	Industrial use, Manufacture, Distribution
ES2	Industrial use, Water treatment chemical
ES3	Industrial use, Paper and board products - Bleaching agents, stabilizers for bleaching bath
ES4	Industrial use, Laboratory activities
ES5	Industrial use, Textile products (incl. nonwoven fabric processing) - Bleaching agents, discharging agents
ES6	Professional use, Textile products (incl. nonwoven fabric processing) - Bleaching agents, discharging agents
ES7	Professional use, Washing and cleaning products (including solvent based products), Indoor
ES8	Professional use, Washing and cleaning products (including solvent based products), Outdoor
ES9	Consumer use, Washing and cleaning products (including solvent based products), Indoor
ES10	Consumer use, Washing and cleaning products (including solvent based products), Outdoor
ES11	Industrial use, Oxidizing agent
ES14	Industrial use, Formulation

# Exposure scenario 9

## 1. Short title of Exposure Scenario: Consumer use, Washing and cleaning products

Main User Groups: SU 21: Consumer uses: Private households (= general public = consumers)

Sector of use: SU 21: Private households (=general public = consumers)

CS1: Wide dispersive indoor use of reactive substances in open systems (ERC8b)

Consumer use, Washing and cleaning products (including solvent based products), Indoor

CS2: Washing and cleaning products (including solvent based products) (PC35)

Consumer use, Washing and cleaning products (including solvent based products), Indoor

## 2. Conditions of use affecting exposure

### 2.1 Control of environmental exposure for: CS1 - Wide dispersive indoor use of reactive substances in open systems (ERC8b) Consumer use, Washing and cleaning products (including solvent based products), Indoor

Used CHESAR model.

#### Product characteristics

Not readily biodegradable.

#### Amount used

Daily amount for wide disperse uses: 0.008 kg

#### Other given operational conditions affecting environmental exposure

Dispersive use

Number of emission days per year: 365

Emission or Release Factor: Air: 0.1 %

Emission or Release Factor: Water: 2 %

Emission or Release Factor: Soil: 0 %

#### Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment

Plant: Municipal sewage treatment plant

Assumed domestic sewage treatment plant flow: 2,000 m<sup>3</sup>/d

Percentage removed from waste water: 12.7 %

Remarks: Receiving surface water flow is 18000 m<sup>3</sup>/d.

### 2.2 Contributing scenario controlling consumer exposure for: CS2 - Washing and cleaning products (including solvent based products) (PC35) Consumer use, Washing and cleaning products (including solvent based products), Indoor

Used CHESAR model.

#### Product characteristics

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use): liquid

## Frequency and duration of use

## Other given operational conditions affecting consumer's exposure

Exposed skin area: Two hands only

# 3. Exposure estimation and reference to its source

## Environment

### CS1 - Wide dispersive indoor use of reactive substances in open systems (ERC8b) Consumer use, Washing and cleaning products (including solvent based products), Indoor

Compartment:		
Fresh water	Risk characterization ratio	0.012
	Method	Used CHESAR model.
Marine water	Risk characterization ratio	0.011
	Method	Used CHESAR model.
Sewage treatment plants	Risk characterization ratio	0.000010
	Method	Used CHESAR model.
Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation).	Risk characterization ratio	< 0.000001
	Method	Used CHESAR model.
Risk from environmental exposure is driven by humans via indirect exposure (primarily ingestion).	Risk characterization ratio	0.000009
	Method	Used CHESAR model.

## Consumers

### CS2 - Washing and cleaning products (including solvent based products) (PC35) Consumer use, Washing and cleaning products (including solvent based products), Indoor

Method:		
	Value type:	Consumer - dermal, acute - local and systemic
	Risk characterization ratio	0.017
AISE Reach Exposure Assessment Consumer Tool (REACT)	Value type:	Consumer - dermal, long-term – systemic
	Risk characterization ratio	0.017

## 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

### CS1 - Wide dispersive indoor use of reactive substances in open systems (ERC8b) Consumer use, Washing and cleaning products (including solvent based products), Indoor

For further information, please contact [info@hydrofinesse.com](mailto:info@hydrofinesse.com), the information within this CS is relevant for all CS within this chapter of the Exposure

## Exposure scenario 10

### 1. Short title of Exposure Scenario: Consumer use, Washing and cleaning products (including solvent based products), Outdoor

Main User Groups: SU 21: Consumer uses: Private households (= general public = consumers)

Sector of use: SU 21: Private households (=general public = consumers)

CS1: Wide dispersive outdoor use of reactive substances in open systems (ERC8e)

Consumer use, Washing and cleaning products (including solvent based products), Outdoor

CS2: Cleaners, liquids (all-purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) (PC35\_2) Consumer use, Washing and cleaning products (including solvent based products), Outdoor

## 2. Conditions of use affecting exposure

### 2.1 Control of environmental exposure for: CS1 - Wide dispersive outdoor use of reactive substances in open systems (ERC8e) Consumer use, Washing and cleaning products (including solvent based products), Outdoor

Used CHESAR model.

#### Product characteristics

Not readily biodegradable.

#### Amount used

Daily amount for wide disperse uses: 0.008 kg

#### Other given operational conditions affecting environmental exposure

Dispersive use

Number of emission days per year:	365
Emission or Release Factor: Air:	0.1 %
Emission or Release Factor: Water:	2 %
Emission or Release Factor: Soil:	0 %

#### Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment

Plant:	Municipal sewage treatment plant
Assumed domestic sewage treatment plant flow:	2,000 m3/d
Percentage removed from waste water:	12.7 %
Remarks:	Receiving surface water flow is 18000 m3/d.

## 2.2 Contributing scenario controlling consumer exposure for: CS2 - Cleaners, liquids (all-purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) (PC35\_2) Consumer use, Washing and cleaning products (including solvent based products), Outdoor

Used CHESAR model.

### Product characteristics

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use): liquid

### Frequency and duration of use

## 3. Exposure estimation and reference to its source

### Environment

CS1 - Wide dispersive outdoor use of reactive substances in open systems (ERC8e) Consumer use, Washing and cleaning products (including solvent based products), Outdoor

Compartment:		
Fresh water	Risk characterization ratio	0.012
	Method	Used CHESAR model.
Marine water	Risk characterization ratio	0.011
	Method	Used CHESAR model.
Sewage treatment plants	Risk characterization ratio	0.000010
	Method	Used CHESAR model.
Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation).	Risk characterization ratio	< 0.000001
	Method	Used CHESAR model.
Risk from environmental exposure is driven by humans via indirect exposure (primarily ingestion).	Risk characterization ratio	0.000009
	Method	Used CHESAR model.

### Consumers

CS2 - Cleaners, liquids (all-purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) (PC35\_2) Consumer use, Washing and cleaning products (including solvent based products), Outdoor

Value type:		
Consumer - dermal, acute - local and systemic	Risk characterization ratio	0.017
	Method:	AISE Reach Exposure Assessment Consumer Tool (REACT)
Consumer - dermal, long-term - systemic	Risk characterization ratio	0.017
	Method:	AISE Reach Exposure Assessment Consumer Tool (REACT)

## 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

### CS1 - Wide dispersive outdoor use of reactive substances in open systems (ERC8e) Consumer use, Washing and cleaning products (including solvent based products), Outdoor

For further information, please contact [info@hydrofinesse.com](mailto:info@hydrofinesse.com), the information within this CS is relevant for all CS within this chapter of the Exposure

## Exposure scenario 14

### 1. Short title of Exposure Scenario: Industrial use, Formulation

Main User Groups: SU 3: Industrial uses:

Uses of substances as such or in preparations at industrial sites

Product category:

PC0: Other (use UCN codes)

PC8	Biocidal products (e.g. Disinfectants, pest control)
PC15	Non-metal-surface treatment products
PC19	Intermediate
PC20	Products such as pH-regulators, flocculants, precipitants, neutralization agents
PC21	Laboratory chemicals
PC25	Metal working fluids
PC26	Paper and board dye, finishing and impregnation products, including bleaches and other processing aids
PC34	Textile dyes, finishing and impregnating products, including bleaches and other processing aids
PC35	Washing and cleaning products (including solvent based products)
PC37	Water treatment chemicals

**CS1:** Formulation of preparations (ERC2) - Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) - Water treatment chemicals (PC37) Industrial use, Formulation

**CS2:** Use in closed batch process (synthesis or formulation) (PROC3) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) - Water treatment chemicals (PC37) Industrial use, Formulation

**CS3:** Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) (PROC5) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) - Water treatment chemicals (PC37) Industrial use, Formulation

**CS4:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing) (PROC9) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) - Water treatment chemicals (PC37) Industrial use, Formulation

**CS5:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities (PROC8a) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) - Water treatment chemicals (PC37) Industrial use, Formulation

**CS6:** Use as laboratory reagent (PROC15) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) - Water treatment chemicals (PC37) Industrial use, Formulation

**CS7:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities (PROC8a) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) - Water treatment chemicals (PC37) Industrial use, Formulation

## 2. Conditions of use affecting exposure

**2.1 Control of environmental exposure for: CS1 - Formulation of preparations (ERC2) - Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) - Water Treatment chemicals (PC37) Industrial use, Formulation**

### Product characteristics

Not readily biodegradable.

### Amount used

Annual site tonnage (tonnes/year): 1,000 ton(s)/year  
Daily amount per site: 1,600 kg

### Frequency and duration of use

Continuous use/release: 320 days/year

### Other given operational conditions affecting environmental exposure

Remarks: Air emission controls are not applicable as there is no direct release to air.  
Low environmental release

### Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant: Municipal sewage treatment plant  
Assumed domestic sewage treatment plant flow: 2,000 m<sup>3</sup>/d  
Remarks: Receiving surface water flow is 18000 m<sup>3</sup>/d.  
Type of Sewage Treatment Plant: Physico-chemical elimination  
Estimated removal efficiency (waste water): 99 %

### Conditions and measures related to external treatment of waste

Remarks: External treatment and disposal of waste should comply with applicable local and/or national regulations.

**2.2 Control of worker exposure for: CS2 - Use in closed batch process (synthesis or formulation) (PROC3) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as ph-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) – Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) - Water treatment chemicals (PC37) Industrial use, Formulation**

### Product characteristics

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).  
Physical Form (at time of use): liquid  
Remarks: Vapour pressure < 0.01 Pa

### Amount used - Frequency and duration of use

Amount per Use: Not required for TRA worker assessments.  
Frequency of use: Covers frequency up to 5 days per week. Covers daily exposures up to 8 hours (unless stated differently).

### Other operational conditions affecting workers exposure

Outdoor / Indoor: Indoor use  
Remarks: Assumes activities are at ambient temperature (unless stated differently).

### Conditions and measures related to personal protection, hygiene and health evaluation

Use eye protection to EN 166, designed to protect against liquid splashes. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.

### Additional good practice advice beyond the REACH Chemical Safety Assessment

Avoid manual contact with contaminated tools and objects. Clean equipment and the work area every day.

**2.3 Control of worker exposure for: CS3 - Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) (PROC5) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) -Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) – Water treatment chemicals (PC37) Industrial use, Formulation**

#### **Product characteristics**

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use): liquid

Remarks: Vapour pressure < 0.01 Pa

#### **Amount used - Frequency and duration of use**

Amount per Use: Not required for TRA worker assessments.

Frequency of use: Covers frequency up to 5 days per week. Covers daily exposures up to 8 hours (unless stated differently).

#### **Other operational conditions affecting workers exposure**

Outdoor / Indoor: Indoor use

Remarks: Assumes activities are at ambient temperature (unless stated differently).

#### **Conditions and measures related to personal protection, hygiene and health evaluation**

Use eye protection to EN 166, designed to protect against liquid splashes. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.

#### **Additional good practice advice beyond the REACH Chemical Safety Assessment**

Avoid manual contact with contaminated tools and objects. Clean equipment and the work area every day.

**2.4 Control of worker exposure for: CS4 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) (PROC9) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) – Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) – Washing and cleaning products (including solvent based products) (PC35) - Water treatment chemicals (PC37) Industrial use, Formulation**

#### **Product characteristics**

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Remarks: Vapour pressure < 0.01 Pa

#### **Amount used - Frequency and duration of use**

Amount per Use: Not required for TRA worker assessments.

Frequency of use: Covers frequency up to 5 days per week. Covers daily exposures up to 8 hours (unless stated differently).

#### **Other operational conditions affecting workers exposure**

Outdoor / Indoor: Indoor use

Remarks: Assumes activities are at ambient temperature (unless stated differently)  
Handle substance within a predominantly closed system provided with extract ventilation.

## Conditions and measures related to personal protection, hygiene and health evaluation

Use eye protection to EN 166, designed to protect against liquid splashes. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.

### Additional good practice advice beyond the REACH Chemical Safety Assessment

Avoid manual contact with contaminated tools and objects. Clean equipment and the work area every day.

**2.5 Control of worker exposure for: CS5 - Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities (PROC8a) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) – Water treatment chemicals (PC37) Industrial use, Formulation**

#### Product characteristics

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use): liquid

Remarks: Vapour pressure < 0.01 Pa

#### Amount used - Frequency and duration of use

Amount per Use: Not required for TRA worker assessments.

Frequency of use: Covers frequency up to 5 days per week. Covers daily exposures up to 8 hours (unless stated differently).

#### Other operational conditions affecting workers exposure

Outdoor / Indoor: Indoor use

Remarks: Assumes activities are at ambient temperature (unless stated differently).

## Conditions and measures related to personal protection, hygiene and health evaluation

Safety glasses with side-shields conforming to EN166 Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.

### Additional good practice advice beyond the REACH Chemical Safety Assessment

Avoid manual contact with contaminated tools and objects. Clean equipment and the work area every day.

**2.6 Control of worker exposure for: CS6 - Use as laboratory reagent (PROC15) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) -Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) – Water treatment chemicals (PC37) Industrial use, Formulation**

#### Product characteristics

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use): liquid

Remarks: Vapour pressure < 0.01 Pa

### Amount used - Frequency and duration of use

Amount per Use: Not required for TRA worker assessments.  
Frequency of use: Covers frequency up to 5 days per week. Covers daily exposures up to 8 hours (unless stated differently).

### Other operational conditions affecting workers exposure

Outdoor / Indoor: Indoor use  
Remarks: Assumes activities are at ambient temperature (unless stated differently).

### Conditions and measures related to personal protection, hygiene and health evaluation

Use eye protection to EN 166, designed to protect against liquid splashes. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.

### Additional good practice advice beyond the REACH Chemical Safety Assessment

Avoid manual contact with contaminated tools and objects. Clean equipment and the work area every day.

**2.7 Control of worker exposure for: CS7 - Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities (PROC8a) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) – Water treatment chemicals (PC37) Industrial use, Formulation**

### Product characteristics

Concentration of the Substance in Mixture/Article: Covers the percentage of the substance in the product up to 100 % (unless stated differently).  
Physical Form (at time of use): liquid  
Remarks: Vapour pressure < 0.01 Pa

### Amount used - Frequency and duration of use

Amount per Use: Not required for TRA worker assessments.  
Frequency of use: Covers frequency up to 5 days per week. Covers daily exposures up to 8 hours (unless stated differently).

### Other operational conditions affecting workers exposure

Outdoor / Indoor: Indoor use  
Remarks: Assumes activities are at ambient temperature (unless stated differently).

### Conditions and measures related to personal protection, hygiene and health evaluation

Use eye protection to EN 166, designed to protect against liquid splashes. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.

### Additional good practice advice beyond the REACH Chemical Safety Assessment

Avoid manual contact with contaminated tools and objects. Clean equipment and the work area every day.

### 3. Exposure estimation and reference to its source

#### Environment

CS1 - Formulation of preparations (ERC2) - Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products, (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning Products (including solvent based products) (PC35) - Water treatment chemicals (PC37) Industrial use, Formulation

Compartment:		
Fresh water	Risk characterization ratio	0.233
	Method	Used ECETOC TRA model (May 2010 release).
Marine water	Risk characterization ratio	0.233
	Method	Used ECETOC TRA model (May 2010 release).
Sewage treatment plants	Risk characterization ratio	0.0015
	Method	Used ECETOC TRA model (May 2010 release).
Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation).	Risk characterization ratio	0.000007
	Method	Used ECETOC TRA model (May 2010 release).
Risk from environmental exposure is driven by humans via indirect exposure (primarily ingestion).	Risk characterization ratio	0.000007
	Method	Used ECETOC TRA model (May 2010 release).

#### Workers

CS2 - Use in closed batch process (synthesis or formulation) (PROC3) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) – Water treatment chemicals (PC37) Industrial use, Formulation

Value type:		
Worker - inhalation - long-term, systemic	Risk characterization ratio	0.28
	Method:	Used ECETOC TRA model (May 2010 release).
Worker - dermal, long-term - systemic	Risk characterization ratio	0.37
	Method:	Used ECETOC TRA model (May 2010 release).
Worker - total - long-term, systemic	Risk characterization ratio	0.65
	Method:	Used ECETOC TRA model (May 2010 release).

**CS3 - Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) (PROC5) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and Impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) - Water treatment chemicals (PC37) Industrial use, Formulation**

Value type:		
Worker - inhalation - long-term, systemic	Risk characterization ratio	0.28
	Method:	Used ECETOC TRA model (May 2010 release).
Worker - dermal, long-term - systemic	Risk characterization ratio	0.37
	Method:	Used ECETOC TRA model (May 2010 release).
Worker - total - long-term, systemic	Risk characterization ratio	0.65
	Method:	Used ECETOC TRA model (May 2010 release).

**CS4 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) (PROC9) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) - Water treatment chemicals (PC37) Industrial use, Formulation**

Value type:		
Worker - inhalation - long-term, systemic	Risk characterization ratio	0.28
	Method:	Used ECETOC TRA model (May 2010 release).
Worker - dermal, long-term - systemic	Risk characterization ratio	0.18
	Method:	Used ECETOC TRA model (May 2010 release).
Worker - total - long-term, systemic	Risk characterization ratio	0.47
	Method:	Used ECETOC TRA model (May 2010 release).

**CS5 - Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities (PROC8a) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) Washing and cleaning products (including solvent based products) (PC35) - Water treatment chemicals (PC37) Industrial use, Formulation**

Value type:		
Worker - inhalation - long-term, systemic	Risk characterization ratio	0.28
	Method:	Used ECETOC TRA model (May 2010 release).
Worker - dermal, long-term - systemic	Risk characterization ratio	0.37
	Method:	Used ECETOC TRA model (May 2010 release).
Worker - total - long-term, systemic	Risk characterization ratio	0.65
	Method:	Used ECETOC TRA model (May 2010 release).

**CS6 - Use as laboratory reagent (PROC15) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as ph-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) - Water treatment chemicals (PC37) Industrial use, Formulation**

Value type:		
Worker - inhalation - long-term, systemic	Risk characterization ratio	0.28
	Method:	Used ECETOC TRA model (May 2010 release).
Worker - dermal, long-term - systemic	Risk characterization ratio	0.0092
	Method:	Used ECETOC TRA model (May 2010 release).
Worker - total - long-term, systemic	Risk characterization ratio	0.29
	Method:	Used ECETOC TRA model (May 2010 release).

**CS7 - Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities (PROC8a) Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as pH-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) - Water treatment chemicals (PC37) Industrial use, Formulation**

Value type:		
Worker - inhalation - long-term, systemic	Risk characterization ratio	0.28
	Method:	Used ECETOC TRA model (May 2010 release).
Worker - dermal, long-term - systemic	Risk characterization ratio	0.37
	Method:	Used ECETOC TRA model (May 2010 release).
Worker - total - long-term, systemic	Risk characterization ratio	0.65
	Method:	Used ECETOC TRA model (May 2010 release).

## 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure

**Scenario CS1 - Formulation of preparations (ERC2) - Biocidal products (e.g. Disinfectants, pest control) (PC8) - Building and construction mixtures not covered elsewhere (PC10) - Non-metal-surface treatment products (PC15) - Intermediate (PC19) - Products such as ph-regulators, flocculants, precipitants, neutralization agents (PC20) - Laboratory chemicals (PC21) - Metal working fluids (PC25) - Paper and board dye, finishing and impregnation products: including bleaches and other processing aids (PC26) - Textile dyes, finishing and impregnating products; including bleaches and other processing aids (PC34) - Washing and cleaning products (including solvent based products) (PC35) - Water treatment chemicals (PC37) Industrial use, Formulation**

For further information, please contact [info@hydrofinesse.com](mailto:info@hydrofinesse.com), the information within this CS is relevant for all CS within this chapter of the Exposure