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* SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· **Trade name: Bromine Granules**

· **Registration number** Mixture
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
· **Product category** PC37 Water treatment chemicals
· **Application of the substance / the mixture** Water treatment
· **Uses advised against**
Processes involving extreme heat use advised against.
Processes involving the use of incompatible substances - refer to section 10.
Any use involving aerosol formation or vapour release in excess of the assigned Workplace Exposure Limit where workers are exposed without suitable Respiratory Protective Equipment.

· **1.3 Details of the supplier of the safety data sheet**
· **Supplier:**
Complete Pool Controls Ltd
Unit 2, The Park
Stoke Orchard
Bishops Cleeve
Gloucestershire
GL52 7RS
UK

Tel: +44 (0)1242 662700 (office hours)
email: sales@cpc-chemicals.co.uk

· **Further information obtainable from:** Product safety department.
· **1.4 Emergency telephone number:**
Members of the public seeking specific information on poisons should contact:
In England and Wales: NHS 111 - dial 111
In Scotland: NHS 24 - dial 111

* SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to GB-CLP**

Ox. Sol. 2	H272 May intensify fire; oxidiser.
Acute Tox. 4	H302 Harmful if swallowed.
Eye Irrit. 2	H319 Causes serious eye irritation.
Repr. 2	H361 Suspected of damaging fertility or the unborn child.
STOT SE 3	H335 May cause respiratory irritation.
Aquatic Acute 1	H400 Very toxic to aquatic life.
Aquatic Chronic 1	H410 Very toxic to aquatic life with long lasting effects.

· **2.2 Label elements**
· **Labelling according to GB-CLP** The product is classified and labelled according to the GB CLP regulation.

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· **Hazard pictograms**

GHS03 GHS07 GHS08 GHS09

· **Signal word** Danger

· **Hazard-determining components of labelling:**
troclosene sodium
Sodium bromide

· **Hazard statements**
H272 May intensify fire; oxidiser.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H361 Suspected of damaging fertility or the unborn child.
H335 May cause respiratory irritation.
H410 Very toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220	Keep away from clothing and other combustible materials.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulations.

· **Additional information:**
EUH031 Contact with acids liberates toxic gas.
Contains biocidal active substance(s): troclosene sodium

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

*
SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 2893-78-9 EINECS: 220-767-7 Index number: 613-030-00-X Reg.nr.: 01-2119489371-33-XXXX	troclosene sodium Ox. Sol. 2, H272; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Eye Irrit. 2, H319; STOT SE 3, H335, EUH031 Note: G Specific concentration limit: STOT SE 3; H335: C ≥ 10 % EUH031: C ≥ 10 %	50 – 100%
CAS: 7647-15-6 EINECS: 231-599-9 Reg.nr.: 01-2119490106-41-XXXX	Sodium bromide Repr. 2, H361; STOT RE 2, H373; STOT SE 3, H336	3 – < 10%

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· **Additional information:**
Does not contain respirable particles of <10µm diameter.
For the wording of the listed hazard phrases refer to section 16.

* SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Rinse contaminated clothes (fire hazard) with plenty of water.
· **After inhalation:**
In case of inhalation:
- Provide fresh air.
- In case of breathing difficulties administer oxygen.
- No mouth-to-mouth or mouth-to-nose resuscitation. Use respiratory bag or oxygen resuscitation apparatus.
- Do not leave patient unattended.

In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Check for and remove any contact lenses.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
· **Information for doctor:** Treat symptomatically and supportively.
· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

* SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
Water spray
Alcohol resistant foam
Carbon dioxide
Use fire extinguishing methods suitable to surrounding conditions.
· **For safety reasons unsuitable extinguishing agents:**
Do not use ABC extinguishers containing nitrogen, due to risk of violent chemical reaction.
Water with full jet
· **5.2 Special hazards arising from the substance or mixture**
Strong oxidiser. Contact with combustible or flammable substances may cause fire.
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
Chlorine gas

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Chlorine compounds
Bromine compounds
· **5.3 Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
Wear fully protective suit.
· **Additional information**
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

*
SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.
· **6.2 Environmental precautions:**
Do not allow to penetrate the ground/soil.
Do not allow product to reach sewage system or any water course in the undiluted form.
Inform respective authorities in case of seepage into water course or sewage system.
· **6.3 Methods and material for containment and cleaning up:**
Pick up mechanically.
Send for recovery or disposal in suitable receptacles.
Do not use combustible materials such as paper towels to clean up spills.
Every attempt should be made to avoid mixing spilled material with other chemicals or debris when cleaning up.
DO NOT transport wet or damp material. Damp material should be neutralized to a safe state.
Ensure adequate ventilation.
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

*
SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product in the undiluted form.
Rinse contaminated clothing with plenty of water (Fire hazard)
Never add water to the product. Always add product to large quantities of water.
Do not add the product to any dispensing device containing residuals of other products.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Do not mix with acids.
· **Information about fire - and explosion protection:**
Potentially explosive when mixed with organic substances.
Can decompose explosively when heated.
Keep respiratory protective device available.

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· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Do not store on combustible materials such as wooden floors or wooden pallets.
· **Information about storage in one common storage facility:**
Store away from reducing agents.
Store away from oxidising agents.
Store away from foodstuffs.
Store away from water.
Do not store together with acids.
· **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
· **Storage class:** 5.1 B
· **7.3 Specific end use(s)** No further relevant information available.

*
SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**
· **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **DNELs**		
CAS: 2893-78-9 troclosene sodium		
Oral	Long-term systemic effects	1.15 mg/kg bw/day (general population)
Dermal	Long-term systemic effects	1.15 mg/kg bw/day (general population)
		2.3 mg/kg bw/day (worker)
Inhalative	Long-term systemic effects	1.99 mg/m³ (general population)
		8.11 mg/m³ (worker)
CAS: 7647-15-6 Sodium bromide		
Oral	Long-term systemic effects	500 µg/kg bw/day (general population)
Dermal	Long-term systemic effects	25 mg/kg bw/day (general population)
		70 mg/kg bw/day (worker)
Inhalative	Long-term systemic effects	870 µg/m³ (general population)
		4,930 µg/m³ (worker)

· **PNECs**	
CAS: 2893-78-9 troclosene sodium	
Freshwater	170 ng/L
Freshwater - Intermittent releases	1.7 µg/L
Marine water	1.52 mg/L
Sewage Treatment Plant	590 µg/L
Sediment (freshwater)	7.56 mg/kg
Soil	756 µg/kg

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CAS: 7647-15-6 Sodium bromide	
Freshwater	56 µg/L
Freshwater - Intermittent releases	4.4 mg/L
Marine water	5.6 µg/L
Marine Water - Intermittent releases	440 µg/L
Sewage Treatment Plant	100 mg/L
Soil	10 mg/kg
Secondary poisoning	33.33 mg/kg food

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· **Appropriate engineering controls** No further data; see section 7.
· **Individual protection measures, such as personal protective equipment**
· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Do not eat or drink while working.
Take note of assigned Workplace Exposure Limits.
Contaminated clothes are a fire hazard. Rinse with plenty of water.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
Ensure that eyewash stations and safety showers are close to the workstation location.
· **Respiratory protection:** Use suitable respiratory protective device in case of insufficient ventilation.
· **Hand protection**

Protective gloves.
Use gloves tested and approved under appropriate government standards such as NIOSH (US) or EN374 (EU).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product 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.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Not suitable are gloves made of the following materials:**
Leather gloves
Textile gloves.
· **Eye/face protection**

Safety glasses with side-shields conforming to EN166.
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

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· **Body protection:**

Impervious protective clothing

Body protection must be chosen depending on product properties, activity and possible exposure.
· **Environmental exposure controls** Do not allow to enter drains, sewers or watercourses.
· **Risk management measures** The operators shall be instructed adequately.

*
SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Physical state**	Solid
· **Colour:**	According to product specification
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	Decomposes upon heating.
· **Boiling point or initial boiling point and boiling range**	Undetermined.
· **Flammability**	Not determined.
· **Lower and upper explosion limit**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Flash point:**	Not applicable.
· **Auto-ignition temperature:**	225 °C
· **Decomposition temperature:**	Not determined.
· **pH at 20 °C**	6 (1%)
· **Viscosity:**	
· **Kinematic viscosity**	Not applicable.
· **Dynamic:**	Not applicable.
· **Solubility**	
· **water:**	Soluble.
· **Partition coefficient n-octanol/water (log value)**	Not determined.
· **Vapour pressure:**	Not applicable.
· **Density and/or relative density**	
· **Density at 20 °C:**	2 g/cm³
· **Relative density**	Not determined.
· **Bulk density:**	0.8 kg/m³
· **Vapour density**	Not applicable.
· **9.2 Other information**	NOTE: The physical data presented above are typical values and should not be construed as a specification.
· **Appearance:**	
· **Form:**	Solid
· **Important information on protection of health and environment, and on safety.**	
· **Ignition temperature:**	Product is not self-igniting.
· **Explosive properties:**	Product does not present an explosion hazard.

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· **Change in condition**	
· **Evaporation rate**	Not applicable.
· **Information with regard to physical hazard classes**	
· **Explosives**	Void
· **Flammable gases**	Void
· **Aerosols**	Void
· **Oxidising gases**	Void
· **Gases under pressure**	Void
· **Flammable liquids**	Void
· **Flammable solids**	Void
· **Self-reactive substances and mixtures**	Void
· **Pyrophoric liquids**	Void
· **Pyrophoric solids**	Void
· **Self-heating substances and mixtures**	Void
· **Substances and mixtures, which emit flammable gases in contact with water**	Void
· **Oxidising liquids**	Void
· **Oxidising solids**	May intensify fire; oxidiser.
· **Organic peroxides**	Void
· **Corrosive to metals**	Void
· **Desensitised explosives**	Void

*
SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
Decomposes on heating and on contact with water, producing toxic fumes including chlorine and bromine.
· **10.3 Possibility of hazardous reactions**
Reacts violently with combustible and reducing materials, causing fire and explosion hazard.
Reacts with acids releasing chlorine.
· **10.4 Conditions to avoid**
Heat and static discharge.
Do not mix with other chemical formulations in their concentrated form.
· **10.5 Incompatible materials:**
Strong acids and oxidising agents
Combustible materials.
Organic solvents.
Reducing agents
· **10.6 Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Chlorine
Chlorine compounds
Bromine compounds
Hydrogen chloride (HCl)

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* SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity** Harmful if swallowed.

· **LD/LC50 values relevant for classification:**		
ATE (Acute Toxicity Estimates)		
Oral	LD50	1,498 mg/kg (rat)

CAS: 2893-78-9 troclosene sodium		
Oral	LD50	1,400 mg/kg (rat)
CAS: 7647-15-6 Sodium bromide		
Oral	LD50	> 2,000 mg/kg (rat)
Dermal	LD50	> 2,000 mg/kg (rat)

· **Primary irritant effect:**
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Causes serious eye irritation.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Suspected of damaging fertility or the unborn child.
· **STOT-single exposure** May cause respiratory irritation.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.
· **Subacute to chronic toxicity:** Prolonged or repeated skin contact may irritate and cause dermatitis.
· **11.2 Information on other hazards**

· **Endocrine disrupting properties**
None of the ingredients are listed.

* SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**	
CAS: 7647-15-6 Sodium bromide	
EC50 (96 h)	> 1,000 mg/l (Bacteria)

· **12.2 Persistence and degradability** The organic portion of the product is biodegradable.
· **12.3 Bioaccumulative potential** Contains components with the potential to bioaccumulate.
· **12.4 Mobility in soil** No further relevant information available.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
· **12.7 Other adverse effects**
· **Remark:** Very toxic for fish
· **Additional ecological information:**
· **General notes:**
Very toxic for aquatic organisms

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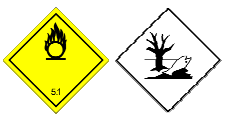
Also poisonous for fish and plankton in water bodies.
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

*
SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Recommended Hierarchy of Controls:
- Minimise waste;
- Reuse if not contaminated;
- Recycle, if possible; or
- Safe disposal (if all else fails).
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Contact waste processors for recycling information.
Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

· **Uncleaned packaging:**
· **Recommendation:**
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
Container remains hazardous when empty. Continue to observe all precautions.
Disposal must be made according to official regulations.
Containers, even those that are “empty,” may contain residues that can develop flammable and/or hazardous vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

*
SECTION 14: Transport information

· **14.1 UN number or ID number**	
· **ADR/RID/ADN, IMDG, IATA**	UN2465
· **14.2 UN proper shipping name**	
· **ADR/RID/ADN**	UN2465 DICHLOROISOCYANURIC ACID SALTS mixture, ENVIRONMENTALLY HAZARDOUS
· **IMDG**	DICHLOROISOCYANURIC ACID SALTS mixture, MARINE POLLUTANT
· **IATA**	DICHLOROISOCYANURIC ACID SALTS mixture
· **14.3 Transport hazard class(es)**	
· **ADR/RID/ADN**	
· **Class**	5.1 (O2) Oxidising substances.

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· **Label**	5.1
· **IMDG**	
	
· **Class**	5.1 Oxidising substances.
· **Label**	5.1
· **IATA**	
	
· **Class**	5.1 Oxidising substances.
· **Label**	5.1
· **14.4 Packing group**	
· **ADR/RID/ADN, IMDG, IATA**	II
· **14.5 Environmental hazards:**	Product contains environmentally hazardous substances: troclosene sodium
· **Marine pollutant:**	Symbol (fish and tree)
· **Special marking (ADR/RID/ADN):**	Symbol (fish and tree)
· **14.6 Special precautions for user**	Warning: Oxidising substances.
· **Hazard identification number (Kemler code):**	50
· **Hazchem Code:**	1W
· **EMS Number:**	F-A,S-Q
· **Stowage Category**	A
· **Handling Code**	H1 Keep as dry as reasonably practicable
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	DO NOT transport wet or damp product.
· **ADR/RID/ADN**	
· **Limited quantities (LQ)**	1 kg
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· **Transport category**	2
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	1 kg
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g

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· **UN "Model Regulation":**	UN 2465 DICHLOROISOCYANURIC ACID SALTS MIXTURE, 5.1, II, ENVIRONMENTALLY HAZARDOUS

* SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Poisons Act**

· **Regulated explosives precursors**
None of the ingredients are listed.

· **Regulated poisons**
None of the ingredients are listed.

· **Reportable explosives precursors**
None of the ingredients are listed.

· **Reportable poisons**
None of the ingredients are listed.

· **Control Of Major Accident Hazards Regulations 2015 (COMAH)**
· **Named dangerous substances - ANNEX I** None of the ingredients are listed.
· **COMAH category**
P8
E1
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Relevant phrases**
H272 May intensify fire; oxidiser.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the unborn child.
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.
EUH031 Contact with acids liberates toxic gas.
· **Training hints**
This product should only be handled by workers who have received sufficient training in the safe handling and use of chemical products.

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· **Department issuing SDS:** Product safety department.
· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (UK REACH)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
ATE: Acute toxicity estimate values
Ox. Sol. 2: Oxidizing solids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
· *** Data compared to the previous version altered.**