

**Bromine Granules**

**1. Identification of the substance/preparation and of the company/undertaking**

**1.1 Product Identifier**

Trade Name: Bromine Granules

**1.2 Relevant Identified uses of the substance or mixture and uses advised against**

Uses: For disinfection of pool and spa water.

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

Company: Complete Pool Controls Ltd  
Unit 2, The Park  
Stoke Orchard  
Bishops Cleeve  
Gloucestershire GL52 7RS

Telephone: +44 (0) 8712 229081 Fax: +44 (0) 8712 229083  
E-mail: [sales@cpc-chemicals.co.uk](mailto:sales@cpc-chemicals.co.uk)

**1.4 Emergency Telephone**

Tel: +44 (0) 8712 229081 (office hours) +44 (0) 371 2229084 ( outside of office hours)

**2. Hazard Identification**

**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008

Hazard Class	Hazard Statements
Acute Tox. 4 *	H302
Eye Irrit. 2	H319
STOT SE 3	H335
STOT SE 3	H400
Aquatic Acute/Chronic 1	H410

For the full text of the H statements mentioned in this section see Section 16.

**Most important adverse effects**

Human Health: See section 11 for toxicological information  
Physical & Chemical Hazards: See section 9 for physicochemical information  
Potential environmental effects: See section 12 for environmental information

**2.2 Label elements**

Labelling according to Regulation (EC) No 1272/2008

Hazard symbols:   

Signal word: Danger

Hazard statements:	H272	May intensify fire; oxidiser.
	H302	Harmful if swallowed.
	H319	Causes serious eye irritation.
	H335	May cause respiratory irritation.
	H410	Very toxic to aquatic life with long lasting effects.
	EUH031	Contact with acid liberates toxic gas
	EUH026	Warning! Do not use together with other products. May release dangerous gases (chlorine).
	P101	If medical advice is needed, have product container or label at hand.
	P102	Keep out of reach of children

**2. Hazard Identification...cont**

Precautionary statements:	P103	Read label before use
	P220	Keep away from clothing and other combustible materials.
	P273	Avoid release to the environment.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
	P405	Store locked up
	P305+351+338:	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
	P501	Dispose of contents/container in accordance with legislation

**Hazardous components which must be listed on the label**

Sodium Dichloroisocyanurate

**2.3 Other Hazards**

PBT / vPvB: Not applicable

**3. Composition/information on ingredients****3.2 Mixture*****sodium dichloroisocyanurate***

		CLP Classification	Percent
CAS No	2893-78-9	Acute Tox. 4 * H302; Eye Irrit. 2	91%
EC No	220-767-7	H319;STOT SE3 H335/H400; Aquatic	
REACH No	01-2119489371-33-XXXX	Acute 1 H410	
Index No	613-030-00-X		

***Sodium Bromide***

231-599-9	7647-15-6	-	Repr.1B H360	9.10%
-----------	-----------	---	--------------	-------

Note : This substance may be marketed in an explosive form in which case it must be evaluated using the appropriate test methods. The classification and labelling provided shall reflect the explosive properties.

**4. First Aid measures****4.1 Description of first aid measures**

General Advice:	Take off all contaminated clothing immediately. Contact with combustible material may cause fire. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.
Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison centre or doctor/physician if you feel unwell.
Skin Contact:	If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash off with soap and water. Get medical attention if irritation develops and persists
Eye Contact:	Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists
Ingestion:	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

**4.2 Most important symptoms and effects, both acute and delayed**

Symptoms & Effects: Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Dusts may irritate the respiratory tract, skin and eyes.

**4.3 Indication of immediate medical attention and special treatment needed**

Treatment: Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

## 5. Fire fighting measures

**General Fire Hazards:** May intensify fire; oxidiser. Contact with combustible material may cause fire.

### 5.1 Extinguishing media:

Suitable media: Water in copious amounts.

Unsuitable media: Dry chemical. Carbon dioxide (CO<sub>2</sub>). Halogenated materials

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

Specific Hazards : Greatly increases the burning rate of combustible materials. Containers may explode when heated. During fire, gases hazardous to health may be formed. Chlorine. Nitrogen trichloride. Hydrogen chloride. Nitrogen Oxides. Carbon monoxide.

### 5.3 Advice for fire-fighters

Protective equipment: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.  
Method/Procedure: In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Cool containers exposed to flames with water until well after the fire is out. Use standard firefighting procedures and consider the hazards of other involved materials

## 6. Accidental release Measures

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

Non emergency personell: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep away from clothing and other combustible materials. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Emergency Responders: Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

### 6.2 Environmental precautions

Environmental precautions: Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

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

Cleaning/Containment: Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Ventilate the contaminated area. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Minimise dust generation and accumulation. Collect dust using a vacuum cleaner equipped with HEPA filter. Wear appropriate protective equipment and clothing during clean-up. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.  
**Large Spills:** Wet down with water and dike for later disposal. Absorb in vermiculite, dry sand or earth and place into containers. Shovel the material into waste container. Following product recovery, flush area with water.  
**Small Spills:** Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination.  
Never return spills to original containers for re-use.

### 6.4 Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS

## 7. Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling: Minimise dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Keep away from heat. Provide appropriate exhaust

**7. Handling and storage**

ventilation at places where dust is formed. Take any precaution to avoid mixing with combustibles. Keep away from clothing and other combustible materials. Do not taste or swallow. Avoid breathing dust. Avoid contact with eyes. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices

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

**Storage** Store locked up. Keep away from heat. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Do not store near combustible materials. Store away from incompatible materials (see section 10 of the SDS). Keep away from sources of ignition and heat.

**7.3 Specific end uses**

**Specific use(s)** Sanitizers, disinfectants, fungicides, bactericides, algacides for swimming pools, spas, hot tubs, septic tanks, and sewage treatments, dish-washing detergents and bleach.

**8. Exposure control/personal protection****8.1 Control parameters**

Occupational exposure limits No exposure limits noted for ingredient(s).  
Biological limit values No biological exposure limits noted for the ingredient(s).  
Recommended monitoring Follow standard monitoring procedures.

Sodium Dichloroisocyanurate Dihydrate,

	Value	Factor	Notes
<b>Derived no effect levels (DNELs)</b>			
<b>General Population</b>			
L-t, Systemic, Dermal	1.15 mg/kg bw/day	100	Repeated dose toxicity
L-t, Systemic, Inhalation	1.99 mg/m <sup>3</sup>	50	Repeated dose toxicity
L-t, Systemic, Oral	1.15 mg/kg bw/day	100	
<b>Workers</b>			
L-t, Systemic, Dermal	2.3 mg/kg bw/day	50	Repeated dose toxicity
L-t, Systemic, Inhalation	8.11 mg/m <sup>3</sup>	25	Repeated dose toxicity
<b>Predicted no effect concentrations (PNECs)</b>			
Freshwater	0 mg/l	1000	
Marine water	1.52 mg/l	50	
Sediment (freshwater)	7.56 mg/kg	100	
Soil	0.756 mg/kg	1000	
STP	0.59 mg/l	100	
L-t = Long Term			

**8.2 Exposure controls**

**Engineering measures** Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Provide eyewash station.

**Personal protective equipment**

**General information** Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

**Eye/face protection** Wear safety glasses with side shields (or goggles). Eye protection should meet standard EN 166

**Hand protection** Wear appropriate chemical resistant gloves. Wear suitable gloves tested to EN374.

**8. Exposure control/personal protection****8.2 Exposure controls**

Respiratory protection	Wear positive pressure self-contained breathing apparatus (SCBA). Wear respirator with dust filter.
Skin and body protection	Wear appropriate clothing to prevent repeated or prolonged skin contact
Thermal Hazards:	Wear appropriate thermal protective clothing, when necessary.
Hygiene Measures:	Keep from contact. Dispose of in accordance with all applicable local and national regulations. Remove clothing promptly. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants
Environmental Controls:	Inform appropriate managerial or supervisory personnel of all environmental releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

**9. Physical and chemical properties****9.1 Information on basic physical and chemical properties**

Form:	Granules
Colour:	White
Odour:	Chlorine
pH @ 20°C:	6.6 (Approx.) (1% aqueous solution)
Melting Point	252 °C (485.6 °F)
Boiling point/boiling range:	Not Applicable
Relative density	2 (25 °C)
Solubility(ies)	250 g/l (25 °C)
Auto-ignition temperature	225 °C (437 °F)
Decomposition temperature	240 - 250 °C (464 - 482 °F) (Approx.)
Partition coefficient:n-octanol/water:	No data available
Explosive properties:	Product is not explosive.
Oxidising properties:	May intensify fire; oxidiser.

**9.2 Other Information**

Bulk density	0.80 g/mL min. (Granular) 0.75 g/mL min. (Medium granular)
Molecular formula	C3-H-Cl2-N3-O3.Na
Molecular weight	219.95 g/mol

**10. Stability and reactivity****10.1 Reactivity**

Reactivity	Contact with water may form hypochlorous acid. The product is stable and non-reactive under normal conditions of use, storage and transport.
------------	--

**10.2 Chemical stability**

Chemical stability	Material is stable under normal conditions
--------------------	--

**10. Stability and reactivity**

**10.3 Possibility of hazardous reactions**

Hazardous reactions: No dangerous reaction known under conditions of normal use

**10.4 Conditions to avoid**

Conditions to avoid: Contact with incompatible materials. Keep away from moisture.

**10.5 Incompatible materials**

Materials to avoid: Acids. Combustible material. Alkalis. Other chlorine agents. Oils/fats

**10.6 Hazardous decomposition products**

Haz. Decomp. products: Chlorine. Nitrogen trichloride. Nitrogen oxides. Hydrogen chloride. Carbon monoxide (CO).

**11. Toxicological Information**

**General information:** No adverse effects are expected.

**Information on likely routes of exposure**

Inhalation: Dust may irritate respiratory system.  
 Skin contact: Dust or powder may irritate the skin.  
 Eye contact: Causes serious eye irritation.  
 Ingestion: Harmful if swallowed  
 Symptoms: Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Dusts may irritate the respiratory tract, skin and eyes.

**11.1 Information on toxicological effects**

Acute toxicity: Harmful if swallowed  
 Sodium dichloroisocyanurate (CAS 2893-78-9)  
 Oral Acute LD50 Rat 1823 mg/kg  
 Skin corrosion/irritation: Based on available data, the classification criteria are not met.  
 Eye damage/irritation: Causes serious eye irritation  
 Respiratory sensitisation: Due to partial or complete lack of data the classification is not possible.  
 Skin sensitisation: Due to partial or complete lack of data the classification is not possible.  
 Germ cell mutagenicity: Due to partial or complete lack of data the classification is not possible.  
 Ames test: Negative.  
 Carcinogenicity: Due to partial or complete lack of data the classification is not possible.  
 Reproductive toxicity: Due to partial or complete lack of data the classification is not possible.  
 Specific target organ toxicity - single exposure: May cause respiratory irritation.  
 Specific target organ toxicity - repeated exposure: Due to partial or complete lack of data the classification is not possible.  
 Aspiration hazard: Due to partial or complete lack of data the classification is not possible.  
 Mixture versus substance: The product is a substance.  
 Other information: Not available

**12. Ecological Information**

**12.1 Toxicity**

**Acute Toxicity** Very toxic to aquatic life with long lasting effects

Sodium Dichloroisocyanurate

Species	Time	Test	Value	Units
Fish - Oryzias latipes	96h	LC50	0	mg / l

**12.2 Persistence and degradability**

Persistence and degradability: Isocyanurate decomposition to carbon dioxide and ammonia.

**12. Ecological Information****12.3 Bioaccumulative potential**

Bioaccumulative potential Isocyanuric acid: Not bioaccumulative.

**12.4 Mobility in soil**

Mobility in soil Soluble in water, predicted to have high mobility in soil.

**12.5 Results of PBT and PvB assessment**

PBT and PvB assessment This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII.

**12.6 Other adverse effects**

Remarks: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component

**13. Disposal Considerations****13.1 Waste treatment methods**

Residual waste	Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations

**14. Transport Information**

<b>14.1 UN Number</b>	UN2465
<b>14.2 UN proper shipping name</b>	DICHLOROISOCYANURIC ACID, SALTS
<b>14.3 Transport hazard class(es)</b>	
<b>ADR/RID/AND/ Class</b>	5.1
<b>IMDG Subsidiary risk</b>	-
<b>Hazard label</b>	5.1
<b>Hazard No (ADR)</b>	50
<b>Tunnel Code</b>	E
<b>IATA Class</b>	5.1
<b>Subsidiary risk</b>	-
<b>ERG Code</b>	5L

**14. Transport Information**

<b>14.4 Packaging Group</b>	II
<b>14.5 Environmental hazards</b>	
Environmentally Hazardous	Yes
Marine Pollutant	Yes
EmS	F-A, S-Q
<b>14.6 Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	N/a
<b>General information</b>	IMDG Regulated Marine Pollutant

**15. Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for this substance or mixture.**

EU regulations The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

Other regulations Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

**15.2 Chemical Safety Assessment** Chemical Safety Assessment has been carried out.

**16. Other information**

Full text of H-statements referred to under sections 2 and 3

H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H410	Very toxic to aquatic life with long lasting effects.
EUH031	Contact with acid liberates toxic gas
EUH026	Warning! Do not use together with other products. May release dangerous gases (chlorine).

Restricted to professional users. Attention - Avoid exposure- obtain special instructions before use

This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty or merchantability, or fitness for any particular use, or any other warranty, express or implied, with respect to this information, and we assume no liability resulting from use of this information Users should make their own investigations to determine the suitability of the information for their particular needs and uses.

Indicates updated section.