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|  | QUALITY MANAGEMENT SYSTEM | Document No. | Form 41 |
| | SHEQ AQT179_V1R0_SDS | Revision | 0 |

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION
GHS PRODUCT IDENTIFIER

AQT179

OTHER MEANS OF IDENTIFICATION

| | |
|------------------------------|--|
| CAS: | Mixture not listed in registry |
| EC: | Mixture not listed in registry |
| RTECS: | Mixture not listed in registry |
| ICSC: | Mixture not listed in registry |
| CHEMICAL FAMILY: | Oxidising Biocide |
| SYNONYMS: | None |
| PROPER SHIPPING NAME: | CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. |
| CHEMICAL FORMULA: | Mixture not determined |
| PRODUCT STOCK CODE/S: | AQT179PC, AQT179IBC |

| RECOMMENDED USE | RESTRICTIONS ON USE |
|--|---|
| <p>AQT179 is a broad-spectrum stabilised oxidising biocide for use in open cooling water systems where bacteria and biofilm are present. It provides microorganism control and cleans systems. It may be used alone or in combination with other biocides on a rotation basis.</p> <p>AQT179 is Bromine-based and finds its effectiveness especially where slime forming bacteria are present.</p> | Not for end user consumption. Not for food, drug, medical or household use. |

SUPPLIER'S DETAILS

AQUATRADE WATER TREATMENT CHEMICALS (PTY) LTD

12 Diesel St, Isando PO Box 357
Gauteng, South Africa Isando

Tel: +27 11 394 0752

info@aquatradesa.co.za

www.aquatradesa.co.za

SDS Enquiries Only

sheq@aquatradesa.co.za

| EMERGENCY PHONE NUMBER | | |
|------------------------|-----------------|------------------------------|
| NAME | TEL | HOURS AVAILABLE |
| E. le Sar | +27 82 921 0643 | Mon. – Fri. 05:00 –20:00 GMT |
| Spilltech | +27 86 100 0366 | 24/7 |

SECTION 2 — HAZARDS IDENTIFICATION
CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

- Corrosive to Metals (Category 1)
- Acute Toxicity, Oral (Category 5)
- Skin Corrosion/Irritation (Category 1B)
- Reproductive Toxicity (Category 1B)
- Aquatic Toxicity - Acute (Category 3)

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS LABEL ELEMENTS

GHS HAZARD CODES

May be corrosive to metals.
 May be harmful if swallowed.
 Causes severe skin burns and eye damage.

Causes serious eye damage.
 May damage fertility or the unborn child.
 Harmful to aquatic life.

GHS PRECAUTIONARY CODES

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Keep only in original packaging.
 Do not breathe vapours/spray.
 Wash body thoroughly after handling.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Use personal protective equipment as required.
 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 IF exposed or concerned: Get medical advice/attention.
 Immediately call a POISON CENTER/doctor.
 Call a POISON CENTER/doctor if you feel unwell.
 Specific treatment (see IF SWALLOWED, IF ON SKIN, IF INHALED, IF IN EYES on this label).
 Wash contaminated clothing before reuse.
 Absorb spillage to prevent material damage.
 Store locked up.
 Store in a corrosion resistant container with a resistant inner liner.
 Dispose of contents and container in accordance with local, regional, national, international regulations.

PICTOGRAMS



OTHER HAZARDS WHICH DO NOT RESULT IN CLASSIFICATION

This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

SECTION 3 — COMPOSITION/INFORMATION ON INGREDIENTS

| SUBSTANCE | CAS | EC | MIN % | MAX % | HAZARD NOTES |
|---------------------|-----------|-----------|-------|-------|---|
| Sodium Hypochlorite | 7681-52-9 | 231-668-3 | 15 | 25 | H314: Causes severe skin burns and eye damage. H400: Very toxic to aquatic life. |

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| | | | | | |
|------------------|-----------|-----------|----|----|---|
| Sodium Hydroxide | 1310-73-2 | 215-185-5 | 10 | 20 | H290: May be corrosive to metals. H314: Causes severe skin burns and eye damage. |
| Surfactant | 5329-14-6 | 226-218-8 | 1 | 10 | H319: Causes serious eye irritation. H315: Causes skin irritation. H412: Harmful to aquatic life with long lasting effects. |
| Sodium Bromide | 7647-15-6 | 231-599-9 | 1 | 5 | H319: Causes serious eye irritation. H360: May damage fertility or the unborn child. EUH032: Contact with acids liberates very toxic gas. |

SECTION 4 — FIRST-AID MEASURES

DESCRIPTION OF NECESSARY FIRST AID MEASURES

Call 112 or 10177 or your local emergency help number immediately, for emergency assistance. Call the Poison Control Center at +27 21 931 6129 – Tygerberg or +27 21 658 5308 – Red Cross, Email: poisonsinformation@uct.ac.za, Website: <https://www.afritox.co.za> for further instructions. Provide them with information such as the compound taken, quantity and time of ingestion, age, weight, and general health status of affected individual. Carefully remove the individual from the exposure area.

| | |
|--------------------------------|---|
| IF INHALED | Confirm that the airways are protected; also, ensure breathing and the presence of pulse. Remove to fresh air. Call a physician immediately. |
| IF IN CONTACT WITH EYES | Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist. |
| IF IN CONTACT WITH SKIN | Remove contaminated clothing. Wash skin with plenty of water. If irritation persists, get medical attention. |
| IF INGESTED | Unless instructed by a healthcare professional, DO NOT induce vomiting in the affected individual. Following an ingestion of the substance, immediately give milk to drink. In case of symptoms that indicate difficulty in swallowing including vomiting or decreased alertness, DO NOT give anything by way of mouth. Take individual to emergency room (ER) for further treatment. |

MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE and DELAYED

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further symptoms are possible

INDICATION OF IMMEDIATE MEDICAL ATTENTION & SPECIAL TREATMENT NEEDED, IF NECESSARY

Gastric lavage for elimination of drug from the stomach (irrigation using special solutions). Medically manage symptoms, such as abnormal heart rate. Provide breathing support, if necessary. Administer medications to counter the effect of the substance in the body. Wash skin and eyes repeatedly and thoroughly (irrigation), to eliminate any remaining hazardous compound. Following this, a suitable skin or eye ointment may be used to treat the exposure. Surgical treatment for skin burns including removal of burnt skin. Administer fluids by an intravenous drip line.

SECTION 5 — FIRE-FIGHTING MEASURES

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|---|---|
| SUITABLE EXTINGUISHING MEDIA | In case of fire caused by reaction of the product with other substances call the fire department. Flood with large amounts of water. |
| EXTINGUISHING MEDIA NOT SUITABLE | None indicated. |
| SPECIFIC HAZARDS ARISING FROM THE CHEMICAL | Chlorine gas. Explosion Hazards Explosive mixtures may be formed with easily oxidisable substances such as organic materials. The substances/groups of substances mentioned can be released in case of fire. |
| SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS incl. PPE | Wear self-contained breathing apparatus and chemical-protective clothing. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. |

SECTION 6 — ACCIDENTAL RELEASE MEASURES

| | |
|--|---|
| PERSONAL PRECAUTIONS, PPE & EMERGENCY PROCEDURES | DO NOT breathe vapours, mist. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. |
| ENVIRONMENTAL PRECAUTIONS | Avoid release to the environment. Prevent product from entering open water sources and municipal drains. |
| METHODS & MATERIALS FOR CONTAINMENT & CLEANING UP | Small spill Isolate the spilled material with sand or other inert material. Dilute with plenty of water and rinse to drain. Rinse contaminated area. Large spill Isolate the area of the spill. Prevent flames and sparks. Prevent contact with organic material using sand or other inert material. Recover as much as possible into suitable labelled containers. Rinse contaminated area to drain system. |

SECTION 7 — HANDLING AND STORAGE

| | |
|--------------------------------------|---|
| PRECAUTIONS FOR SAFE HANDLING | Ensure thorough ventilation of stores and work areas. DO NOT mix with other chemicals. Prevent contact with skin and eyes. |
| CONDITIONS FOR SAFE STORAGE | Keep cool. Store in accordance with local/regional/national/international regulations. Store in a dry place. Store in original closed container. Store in a well-ventilated place. Store away from oxidizing agents. Storage duration: 12 Months From the data on storage duration in this safety data sheet no agreed statement regarding the warranty of application properties can be deduced. |
| INCOMPATIBILITIES | Conditions to avoid: Heat, Direct Sunlight. Substances to avoid: Organic materials and reducing agents. |
| SANS 10263-0 WAREHOUSING | 8.4.3.2 Where flammable or corrosive substances are stored, the floor shall slope away from the storage area (primary collection area) to a secondary catch basin or sump of capacity at least 10 % of the total available storage volume of the fire section concerned. The secondary catch basin shall be within the fire section and shall be such that it can be well ventilated. Care shall be taken in the design of such areas to prevent contamination of the soil or ground water. 9.7.2 Every type of storage area inside a warehouse shall be clearly demarcated, for example separate storage areas for poisons, flammables and corrosives shall display the relevant hazard class diamond (see table 1). The dimensions of the hazard class diamonds shall be at least 250 mm x 250 mm. |

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12.8.5 Storage of flammable liquids of class 3, toxic substances of division 6.1 and corrosives of class 8

Nitro-methane class 3, UN No. 1261, shall be separated from substances of class 6.1, and cyanides of division 6.1 shall be separated from acids of class 8.

Concentrated acids and bases shall be segregated by at least 1 m. Packaged flammable liquids of class 3, toxic substances of division 6.1 and corrosives of class 8 that are of category 3 can be stored in the same area, provided that:

- a) they are kept above floor level, and
- b) liquid dangerous goods of one class are not stored above dangerous goods of another class.

12.8.8.3 Toxic and infectious substances (see class 6 in SANS 10228) can contaminate firefighting water in the event of a fire, therefore:

- a) Toxic and infectious substances shall be separated from other flammable products and aerosols.
- b) Toxic and infectious substances shall be segregated from oxidizing substances, organic peroxides, and corrosives.
- c) Flammable toxic and infectious substances shall be segregated from non-flammable toxic and infectious substances.

12.8.8.4 Corrosives (see class 8 in SANS 10228) that leak or spill from their packaging can cause serious damage to other packages, with potentially hazardous consequences.

Corrosives shall be segregated from toxic substances, infectious substances, aerosols, flammables, oxidizing substances and organic peroxides.

The provisions of above apply to the storage of the following quantities of dangerous goods.

| CORROSIVES (ACIDS AND BASES) | |
|-------------------------------------|------------|
| CLASS 8 | |
| Category 1 | > 50 kg |
| Category 2 | > 200 kg |
| Category 3 | > 1 000 kg |

SECTION 8 — EXPOSURE CONTROLS AND PERSONAL PROTECTION CONTROL PARAMETERS

| | |
|---|--------------------|
| OCCUPATIONAL EXPOSURE LIMITS (OEL) | Not listed. |
| ADDITIONAL EXPOSURE LIMITS UNDER THE CONDITIONS OF USE | No additional data |
| DNEL/DMEL AND PNEC-VALUES | No additional data |

APPROPRIATE ENGINEERING CONTROLS






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Avoid spraying the material. Supply safety shower and eyewash in immediate vicinity of exposure area. Avoid contact with skin, eyes, and clothing. Wash hands before breaks and immediately after handling the product.

Protective measures

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

INDIVIDUAL PROTECTION MEASURES

| | | |
|-------------------------------|---|---|
| EYE PROTECTION |  | Safety glasses with side-shields or safety goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Contact lenses should not be worn; they may contribute to severe eye injury. |
| FACE PROTECTION |  | Clear Face shield. WARNING – A face shield shall not be worn during the application of dangerous substances that emit toxic vapours or low boiling-point organic solutions. |
| HAND PROTECTION |  | Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Full contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Splash contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario. |
| BODY PROTECTION |  | Body protection must be chosen depending on activity and possible exposure, e.g., apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust). |
| RESPIRATORY PROTECTION |  | For nuisance protection use a type FFP1 EN 149:2001 particle respirator as a backup to engineering controls. |

NOTE: The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors. Recommendations above is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

General safety and hygiene measures

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DO NOT breathe vapour/spray. **Avoid** contact with the skin, eyes, and clothing. Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|---|
| APPEARANCE (PHYSICAL STATE, COLOUR ETC): | Clear colorless to slightly yellow liquid |
| ODOUR: | Chlorine Odor |
| ODOUR THRESHOLD: | No test data available |
| pH: | > 12.5 |
| MELTING/FREEZING POINT: | No test data available |
| INITIAL BOILING POINT AND BOILING RANGE: | No test data available |
| FLASH POINT: | Do not flash |
| EVAPORATION RATE: | No test data available |
| FLAMMABILITY (SOLID, GAS): | Not flammable |
| UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: | Not explosive |
| VAPOUR PRESSURE: | No test data available |
| VAPOUR DENSITY: | No test data available |
| RELATIVE DENSITY: | Approx. 1.2 |
| SOLUBILITY(IES): | Miscible in water |
| PARTITION COEFFICIENT: N-OCTANOL/WATER: | No test data available |
| AUTO-IGNITION TEMPERATURE: | No test data available |
| DECOMPOSITION TEMPERATURE: | No test data available |
| VISCOSITY: | No test data available |
| OXIDIZING PROPERTIES: | Non-Oxidizing |

NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10 — STABILITY AND REACTIVITY

| | |
|--|--|
| REACTIVITY | No hazardous reactions if stored and handled as prescribed/indicated. Corrosion to metals: Corrosive effect on metals. Remarks: Forms no flammable gases in the presence of water. |
| CHEMICAL STABILTY | The product is stable if stored and handled as prescribed/indicated. The product may become unstable at elevated temperatures and under pressure. |
| POSSIBILTY of HAZARDOUS REACTIONS | Reacts with acids. Exothermic reaction. Hazardous polymerisation will not occur under normal conditions. |
| CONDITIONS TO AVOID | High temperature. Poor ventilation. See SDS section 7 - Handling and storage. |
| INCOMPATIBLE MATERIALS | Avoid contact with organic materials and reducing agents. Avoid contact with all other chemicals. Corrosivity Corrosive to stainless steel, zinc, and aluminium. |
| HAZARDOUS DECOMPOSITION PRODUCTS | Thermal decomposition products: Carbon Monoxide, Carbon Dioxide. If some impurities are added to the product, they will speed up the product decomposition process. Should this happen it will be evidenced by swelling of the drums. This product should therefore be stored and used on a first in first out basis and should never be mixed with any other chemicals. |

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SECTION 11 — TOXICOLOGICAL INFORMATION TOXICOLOGICAL (HEALTH) EFFECTS

| | |
|---|--|
| ACUTE TOXICITY | Based on available data, the classification criteria are not met. |
| SKIN CORROSION/IRRITATION | Causes severe skin burns and eye damage. |
| SERIOUS EYE DAMAGE/EYE IRRITATION | Causes serious eye damage. |
| RESPIRATORY OR SKIN SENSITIZATION | 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 | Bromide has a low acute oral toxicity, with LD50 values in rodents ranging from 3500 to 7000 mg/kg body weight. It is rapidly absorbed, and steady-state serum levels have been reached in rats within 4 weeks. The biological half-life of bromide, and consequently the serum levels, are strongly dependent on chloride intake. Feeding of sodium bromide to rats for 90 days in concentrations of 0, 75, 300, 1200, 4800 and 19,200 mg/kg diet led to a complex of changes in the endocrine system, thyroid activation being the most prominent. Furthermore, in the highest dose groups a decrease in spermatogenesis in the testes and decreased secretory activity of the prostate or a reduction in the number of corpora lutea in the ovaries were found. A three-generation reproduction study of the same dietary concentrations showed in the two highest dose groups a decrease in fertility which appeared to be reversible upon bromide withdrawal. Macroscopically, no changes in the offspring were observed. From these studies a no-effect level for bromide ion of 240 mg/kg diet was determined, corresponding to a tentative Acceptable Daily Intake (ADI) of 0.12 mg/kg body weight. This is in good agreement with a preliminary ADI of 0.1 mg/kg established in an experiment with human volunteers but is considerably lower than the ADI of 1 mg/kg estimated by FAO/WHO. It is suggested that bromide exerts an inhibitory effect on the thyroid, resulting in an increased hormonal stimulation of this organ by the pituitary gland. |
| SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE | Based on available data, the classification criteria are not met |
| SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE | Based on available data, the classification criteria are not met |
| ASPIRATION HAZARD | Based on available data, the classification criteria are not met |

LIKELY SOURCES OF EXPOSURE

| INHALATION | EYES | SKIN | INGESTION |
|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Unlikely | Likely | Likely | Rare |
| Unpacking or decanting of product. | Unpacking or decanting of product. | Unpacking or decanting of product. | Unpacking or decanting of product. |

SYMPTOMS RELATED TO PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS

Sneezing. Breathing difficulties if fumes of the solution or chemical powders are inhaled. Speaking and swallowing difficulties due to swelling of tongue and throat. Inflammation of the lung. Severe burning and associated pain in the mouth, throat, and food-pipe (even the stomach may be burnt), drooling from the mouth. Due to this, the eyes, nose, and ears may be affected.

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Severe damage along the gastrointestinal tract including the stomach; severe stomach pain. Severe skin irritation and burns (perforations on the skin may be observed). Loss of vision. Severe stomach pain. Blood in stool and vomit. Sudden decrease in blood pressure (hypotension). Shock. Collapse. Severe changes in blood pH value affecting many parts of the body and organs.

Ingesting large quantities can result in long-term damage to the mouth, food-pipe, and stomach; the chemical has the potential to continue causing damage to the affected region, even after exposure is ceased.

Skin burns may be severe and if the eye is affected, it can also result in total loss of vision.

DELAYED/IMMEDIATE/CHRONIC EFFECTS FROM LONG/SHORT TERM EXPOSURE

No additional test data available.

NUMERICAL MEASURES OF TOXICITY (SUCH AS ATE)

| TEST | ROUTE | SPECIES | VALUE | EFFECTS |
|------|--------|-------------------|---------------|---|
| LD50 | Oral | Rat (OECD 401) | 3 616.4 mg/kg | Calculation based on GHS additivity formula |
| LD50 | Dermal | Rabbit (OECD 402) | > 5 000 mg/kg | Calculation based on GHS additivity formula |

INTERACTIVE EFFECTS

No additional data available.

WHERE SPECIFIC CHEMICAL DATA IS NOT AVAILABLE

No additional data available.

MIXTURES

No additional data available.

MIXTURES VS INGREDIENTS INFORMATION

No additional data available.

OTHER INFORMATION

No additional data available.

SECTION 12 — ECOLOGICAL INFORMATION

TOXICITY

| Aquatic Toxicity (Calculation based on GHS additivity formula) | | |
|---|----------------|------------|
| TEST | SPECIES | VALUE |
| 48Hr EC50 | Fish | > 100 mg/l |
| 48Hr EC50 | Daphnia | 81.66 mg/l |
| 48Hr EC50 | Algae | 76.22 mg/l |
| 48Hr EC50 | Micro-organism | 12.55 mg/l |

PERSISTANCE AND DEGRADABILITY

No known toxic degradation products. No additional data available.

BIOACCUMULATIVE POTENTIAL

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| | |
|---|------------------------------------|
| PARTITION COEFFICIENT: N-OCTANOL/WATER | |
| LOG-K_{ow} | No additional test data available. |

Not expected to accumulate. No additional data available.

MOBILITY IN SOIL

No additional test data available.

OTHER ADVERSE EFFECTS

No additional test data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL RECOMMENDATION

At the time of review, criteria for land treatment or burial (sanitary landfill) disposal practices are subject to significant revision. Prior to implementing land disposal of waste residue (including waste sludge), consult with environmental regulatory agencies for guidance on acceptable disposal practices.

Dispose of waste and container in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport, or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle/reuse. Remove for physico-chemical/biological treatment. DO NOT discharge into drains or the environment.


ECOLOGY – WASTE MATERIAL

Avoid release to the environment.

EMPTY CONTAINER

Avoid reuse of empty container for other storage. Consider refilling. Rinse/decontaminate thoroughly before re-filling, discarding in waste or return to supplier. Puncture container before discarding as waste.

SECTION 14 — TRANSPORT INFORMATION

| TRANSPORTATION CLASSIFICATION | ADR/RID | ADN(R) | IMDG | ICAO/IATA | |
|--|--|-----------------------|------------------------------|------------------------------|-----------------------|
| UN NUMBER | 3266 | | | | |
| PROPER SHIPPING NAME | CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. | | | | |
| HAZARD CLASS(ES) | 8.2  | | | | |
| PACKING GROUP | III | | | | |
| MARINE POLLUTANT | No | | | | |
| EMERGENCY RESPONSE | ERG 2020 154 | - | EMS GUIDE F-A; S-B | ERG DRILL GUIDE 8L | |
| EXEMPT / QUANTITY LIMITATIONS KG | Exempt / Factor | Passenger rail | N/A | Passenger aircraft | Cargo aircraft |
| | 200 / 5 | 5 L | | 5 L | 60 L |
| P, B, L & O Provisions SANS 10231 | None | N/A | N/A | N/A | |

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|-----------------------|---------------------|
| Vessel Stowage | 10A - A |
| | 10B – 40, 52 |

Vessel Stowage

Stowage category 10(A) “B” means

- i. The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger, vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length: and
- ii. “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

10(B) “40” means

Stow “clear of living quarters”.

10(B) “52” means

Stow “separated from” acids.^{1 2}

¹For waste cyanides or waste cyanide mixtures or solutions, refer to §173.12(e) of this subchapter.

²Class 8 materials in PG II or III that otherwise are required to be segregated from one another may be transported in the same cargo transport unit, whether in the same packaging or not, provided the substances do not react dangerously with each other to cause combustion and/or evolution of considerable heat, or of flammable, toxic or asphyxiant gases, or the formation of corrosive or unstable substances; and the package does not contain more than 30 L (7.8 gallons) for liquids or 30 kg (66 lbs.) for solids.

DO NOT load with Class 1 and 7.

Keep aluminium gas cylinders apart from caustic bases.

May be loaded with Class 8A if kept at least 1 metre apart.

Can be loaded with all other classes.

Goods of different classes must be segregated by an air space of at least 100mm or by an approved segregation device or non-dangerous goods.

SECTION 15 — REGULATORY INFORMATION

SA NATIONAL LEGISLATION

Hazardous Substances Act 15 of 1973 and Regulations.

Occupational Health and Safety Act 85 of 1993 and Regulations.

SA NATIONAL STANDARDS

SANS 10228: 2006: Identification and Classification of Dangerous Goods for Transport by Road and Rail.

SANS 10231: 2018: Transport of dangerous goods - Operational requirements for road vehicles.

SANS 10234: 2008: Globally Harmonized System of classification and labelling of chemicals (GHS).

SANS 11014: 2010: Safety Data Sheets for chemical Products.

REACH Regulation (EC) No 1907/2006

This product contains only components that have been either pre-registered, registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH)., The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer’s/user’s responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

Seveso III: Directive 2012/18/EU

Listed in Regulation: Not applicable

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Chemical safety assessment

Not assessed.

SECTION 16 — OTHER INFORMATION

FULL TEXT OF H & P - STATEMENTS REFERRED TO UNDER SECTION 2

| HAZARD STATEMENTS | PRECAUTIONARY STATEMENTS |
|---|---|
| H290 May be corrosive to metals. H303 May be harmful if swallowed. H314 Causes severe skin burns and eye damage. H360 May damage fertility or the unborn child. H402 Harmful to aquatic life. | P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P234 Keep only in original packaging. P260 Do not breathe vapours/spray. P264 Wash body thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection. P281 Use personal protective equipment as required. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 IF exposed or concerned: Get medical advice/attention. P310 Immediately call a POISON CENTER/doctor. P312 Call a POISON CENTER/doctor if you feel unwell. P321 Specific treatment (see IF SWALLOWED, IF ON SKIN, IF INHALED, IF IN EYES on this label). P363 Wash contaminated clothing before reuse. P390 Absorb spillage to prevent material damage. P405 Store locked up. P406 Store in a corrosion resistant container with a resistant inner liner. P501 Dispose of contents and container in accordance with local, regional, national, international regulations. |

LABELLING SANS 10234:2008

SIGNAL WORD: DANGER

PICTOGRAMS

| PHYSICAL & HEALTH HAZARD | | ENVIRONMENTAL HAZARD | | TRANSPORT | |
|--------------------------|---------------------------------------|----------------------|-----|-----------|-----------------------|
| GHS05 | Corrosive Substance | N/A | N/A | Class 8.2 | Corrosive Alkaline |
| GHS08 | Serious Health Hazard Substance | | | | |

**LEGEND TO ABBREVIATIONS & ACRONYMS**

ABEK: Organic gases and vapours (BP>65°C); Inorganic gases and vapours; Sulphur dioxide and other acid gases and vapours; Ammonia and organic ammonia derivatives
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
 BCF: Bioconcentration Factor
 BOD5: Biological Oxygen Demand in 5
 CAS: Chemical Abstracts Service
 CEN: European Committee for Standardization
 COD: Chemical Oxygen Demand
 DMEL: Derived Minimal Effect Level
 DNEL: Derived No Effect Level
 EC: European Commission
 EC50: Half Maximal Effective Concentration
 EMS: Emergency Medical Services
 ERG: Emergency Response Guidelines
 EU: European Union
 GHS: Globally Harmonized System
 IARC: International Agency for Research on Cancer
 IATA: International Air Transport Association
 ICAO: International Civil Aviation Organization

ICSC: International Chemical Safety Cards
 IMDG: International Maritime Dangerous Goods
 LC50: Lethal Concentration 50 (concentration in water having 50% chance of causing death to aquatic life)
 LD50: Lethal Dose 50 (median concentration of a toxicant that will kill 50% of the test animals within a designated period)
 LOG-KOW: Logarithm - Octanol - Water Partition Coefficient
 NIOSH: National Institute for Occupational Safety and Health (US CDC)
 NTP: National Toxicology Program
 OEL: Occupational Exposure Limit
 OSHA: Occupational Safety and Health Administration
 P, B, L & O: Packaging, Bulk Transport, Loading Operation & Transport Operation
 PBT: Persistent, Bio accumulative, and Toxic
 PNEC: Predicted No-Effect Concentration
 PPE: Personal Protection Equipment
 RID: European Agreements Concerning the International Carriage of Dangerous Goods by Rail
 RTECS: Registry of Toxic Effects of Chemical Substances
 SANS: South African National Standard
 vPvB: Very Persistent Very Bio accumulative

KEY LITERATURE REFERENCES AND SOURCES**ECHA – European Chemical Agency**

<https://echa.europa.eu/de/registration-dossier/-/registered-dossier/15516/1>

<https://echa.europa.eu/de/registration-dossier/-/registered-dossier/15566/1>

<https://echa.europa.eu/de/registration-dossier/-/registered-dossier/14842/1>

<https://echa.europa.eu/de/registration-dossier/-/registered-dossier/8231/1>

National Center for Biotechnology Information (2020). PubChem Compound Summary for CID 23665760,

Sodium hypochlorite. Retrieved December 28, 2020 from

<https://pubchem.ncbi.nlm.nih.gov/compound/Sodium-hypochlorite>

van Leeuwen FX, den Tonkelaar EM, van Logten MJ. Toxicity of sodium bromide in rats: effects on endocrine system and reproduction. Food Chem Toxicol. 1983 Aug;21(4):383-9. doi: 10.1016/0278-6915(83)90092-3. PMID: 6684620.

<https://pubmed.ncbi.nlm.nih.gov/6684620/>

TRAINING ADVICE

Ensure SDS is always available and provide adequate information, instruction, and training for operators.

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