



1 Identification

GHS Product Identifier

AQT 104

Other means of identification

CAS:	Not listed in registry
EC:	Not listed in registry
RTECS:	Not listed in registry
ICSC:	Not listed in registry
NSC:	Not listed in registry
Chemical Family:	Mixture
Synonyms:	None
Proper Shipping Name:	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.
Chemical Formula:	Mixture

Recommended use of the chemical and restriction on use

AQT 104 is a broad spectrum biocide for use in membrane systems where bacteria and biofilm are expected to be present. It provides micro-organism control and clean systems. It may be used alone or with other biocides on a rotation basis. Industrial Water Treatment. Not for food, drug or household use.

Supplier's details

AQUATRADE WATER TREATMENT CHEMICALS (PTY) LTD

4A Spanner Road
Spartan, Kempton Park
Gauteng, South Africa
1619

PO Box 357
Isando
Gauteng, South Africa
1600

www.aquatradesa.co.za
sheq@aquatradesa.co.za

Tel: +27 11 394 0752
Tel: +27 87 654 3326 (SDS Enquiries)

Emergency phone number

E le Sar: +27 82 921 0643 (Available Mon - Fri, GMT 5:00 to 20:00)
Spilltech: +27 861 000 366 (Available 24/7)

2 Hazard(s) identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute Toxicity, Oral (Category 4), H302
Acute Toxicity, Inhalation (Category 2), H330
Skin Corrosion/Skin Irritation (Category 1B), H314
Skin Sensitisation (Category 1), H317
Acute Aquatic Toxicity (Category 2), H401

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

GHS label elements

Danger



Harmful if swallowed

Causes severe skin burns and eye damage

May cause an allergic skin reaction

Fatal if inhaled

Toxic to aquatic life

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

Wear respiratory protection.

IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN: Wash with plenty of soap and water.

IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

Specific treatment is urgent (see P330+P351+P352) on this label).

If skin irritation or rash occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Dispose of contents and container in accordance with local, regional, national, international regulations.

Other hazards which do not result in classification

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

3 Composition/information on ingredients

Description	CAS Number	EINECS Number	%	Note
Confidential Business Information			0	Information available to Emergency Responders on Tel: +27 82 921 0643

4 First-aid measures

Description of necessary first-aid measures

Eyes:

If in eyes: Rinse cautiously with water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.

Skin:

If on skin: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. Call a Poison Centre or doctor/physician if you feel unwell; If skin irritation or rash occurs, get medical advice/attention.

Ingestion:

If swallowed: Rinse mouth. **DO NOT** induce vomiting. Call a Poison Centre or doctor/physician if you feel unwell. Never give anything by mouth to an unconscious person.

Inhalation:

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing until recovered. Call a Poison Centre or doctor/physician if experiencing respiratory symptoms or if you feel unwell.

Most important symptoms/effects, acute and delayed

Symptoms and effects are listed under "Toxicological Information".

Indication of immediate medical attention and special treatment needed, if necessary**Advice to Doctor No specific antidote:**

Treat symptomatically and supportively. Symptoms of poisoning may occur even after several hours; Therefore medical observation is suggested for at least 48 hours after the accident.

Medical Conditions Aggravated by Exposure:

May cause an allergic skin reaction.

5 Fire-fighting measures**Suitable extinguishing media****Flammability Conditions:**

May burn but do not ignite readily.

Extinguishing Media:

Use dry chemical, Carbon dioxide (CO₂), foam or water spray for extinction.

Fire and Explosion Hazard:

Containers may explode when heated.

Flash Point	Lower Explosion Limit	Upper Explosion Limit	Auto Ignition Temperature
No Data Available	No Data Available	No Data Available	No Data Available

Specific hazards arising from the chemical

Fire or heat will produce irritating, toxic and/or corrosive gases, including Hydrogen bromide (HBr), Bromine (Br₂) and Nitrogen oxides (NO_x).

Special protective actions for fire-fighters

Contain runoff from fire control or dilution water - Runoff may pollute waterways.

Personal Protective Equipment:

Firefighters should wear full protective clothing (fire kit) in combination with self-contained breathing apparatus (SCBA).

General Measures:

If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. Avoid getting water inside containers.

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures****General Response Procedure:**

Eliminate all sources of ignition. Increase ventilation. Avoid walking through spilled product as it may be slippery. Use clean, non-sparking tools and equipment.

Personal Precautionary Measures:

Personnel involved in the clean up should wear full protective clothing as listed in section 8.

Environmental precautions

Do not allow product to reach drains, sewers or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Authority.

Methods and materials for containment and cleaning up

Clean Up Procedures:

Soak up spilled product using absorbent non-combustible material such as sand or soil. Avoid using sawdust or cellulose. When saturated, collect material into suitable, labelled, dry, sealable containers and hold for safe disposal.

Containment:

Stop leak if safe to do so. Environmental Precautionary Measures Evacuation Criteria Evacuate all unnecessary personnel.

7 Handling and storage

Precautions for safe handling

Keep containers tightly closed. **Avoid** bodily contact. Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. **Avoid** contact with eyes, skin and clothing. **DO NOT** inhale product vapours.

Conditions for safe storage, including any incompatibilities

Storage:

Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10.

Container:

Container type/packaging must comply with all applicable local legislation. Store in original packaging as approved by manufacturer.

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.

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.

Toxic and infectious substances
--

Class 6.1	
Category 1	> 5 kg
Category 2	> 50 kg
Category 3	> 500 kg
Class 6.2	
All quantities	
Corrosives (acids and bases) Class 8	
Category 1	> 50 kg
Category 2	> 200 kg
Category 3	> 1 000 kg

Special Provisions SANS 10263-0

E.2.6.1 Toxic substances of division 6.1 shall not be stored together with foodstuffs or stock feeds.

8 Exposure controls/personal protection

Control parameters

General:

No exposure standard has been established for this product by the OHS.

NOTE: The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity

Exposure Limits:

No Data Available

Appropriate engineering controls

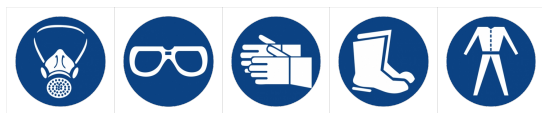
A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Work Hygienic Practices:

Wash hands before breaks and at the end of work. Do not eat, drink or smoke until after-work shower and changing clothes.

Individual protection measures

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 below 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.



Eye/face 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 as they may contribute to severe eye injury.

WARNING – A face shield shall not be worn during the application of dangerous substances that emit toxic vapours or low boiling-point organic solutions.

Skin 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 have to 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

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

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.

Body Protection:

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection:

Use a full-face particle respirator WITH type N100 (US) or type P3 (EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9 Physical and chemical properties

Physical and chemical properties

Appearance (physical state, colour etc):	Clear to slightly hazy colourless or light yellow liquid
Odour:	Slightly sweet
Odour threshold:	No test data available
pH:	5 - 6
Melting/Freezing Point:	-20 - -25° C / < 0° C
Initial boiling point and boiling range:	> 100° C / No test data available
Flash point:	No test data available
Evaporation rate:	< 1
Flammability (solid, gas):	No test data available
Upper/lower flammability or explosive limits:	No test data available
Vapour pressure:	No test data available
Vapour density:	No test data available
Relative density:	1.19 - 1.22
Solubility(ies):	Miscible in all proportions
Partition coefficient: n-octanol/water:	No test data available
Auto-ignition temperature:	No test data available
Decomposition temperature:	> 160° C
Viscosity:	No test data available

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

10 Stability and reactivity

Reactivity

No known reactivity profile.

Chemical stability

Product is stable under normal conditions of use, storage and temperature.

Possibility of hazardous reactions

None known. Hazardous polymerisation will not occur.

Conditions to avoid

Exposure to light, heat.

Incompatible materials

Incompatible with oxidizing agents, reducing agents and bases.

Hazardous decomposition products

Bromine, Hydrogen Bromide, Cyanogen Bromide, and Nitrogen oxides.

11 Toxicological information**Toxicological (health) effects**

No data for mixture. Results on active toxic ingredient (**2,2-Dibromo-2-cyanoacetamide**, CAS-No. 10222-01-2, EC-No. 233-539-7)

Skin corrosion/irritation:

Skin - Rabbit

Result: Severe skin irritation

Serious eye damage/eye irritation:

Eyes - Rabbit

Result: Severe eye irritation

Respiratory or skin sensitisation:***Germ cell mutagenicity:***

No data available

Carcinogenicity:

IARC: 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.

Reproductive toxicity:

No data available

Specific target organ toxicity - single exposure:

No data available

Specific target organ toxicity - repeated exposure:

No data available

Aspiration hazard:

No data available

Cough, Shortness of breath, Headache, Nausea, Vomiting

Information on the likely routes of exposure

Skin and eye contact - YES (Vapours/Mist).

Moderate irritant to skin. May cause sensitization by skin contact. May cause an allergic skin reaction. Frequent or prolonged contact may cause flaking or cracking of the skin.

Inhalation - YES (Vapours/Mist).

Harmful by inhalation. Irritant to the upper respiratory tract.

Ingestion - YES (Unhygienic practices).
Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Refer "Toxicological (health) effects".

Delayed and immediate effects and also chronic effects from short and long term exposure

No known long term effects. Immediate effects refer to "Toxicological (health) effects".

Numerical measures of toxicity (such as acute toxicity estimates)

Acute toxicity:		Category:
LD ₅₀ Oral Rat	800.9 mg/kg	4
LD ₅₀ Dermal Rabbit	>5 000 mg/kg	Not classifiable
LC ₅₀ Inhalation Vapours	1.6 mg/kg	2

Interactive effects

None known.

Where specific chemical data are not available

No additional data available.

Mixtures

No additional data available.

Mixture versus ingredient information

No additional data available.

Other information

None.

12 Ecological information

Toxicity

Acute toxicity:		Category:
EC ₅₀ Fish	> 100 mg/l	Not classifiable
EC ₅₀ Daphnia	> 100 mg/l	2
EC ₅₀ Algae	1.27 mg/l	2
EC ₅₀ Micro-organism	No data	

Persistence and degradability

No information available on mobility for this product.

Environmental Fate:

Product contains organic halogens, may contribute to AOX. **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.

Bioaccumulative potential

No information available on bioaccumulation for this product.

Mobility in soil

No information available on bioaccumulation for this product.

Other adverse effects

Results of PBT and vPvB assessment:

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Other adverse effects:

Toxic to aquatic life. No additional data available.

13 Disposal considerations**Disposal methods****Waste disposal recommendations:**

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 materials:

DO NOT release to the environment.

Empty Container:

DO NOT reuse container. Rinse thoroughly before discarding in chemical waste or return to supplier.

14 Transport information**UN Number**

UN2927 Class 6.1(8) PG II Exempt 5 F: 200

UN Proper Shipping Name

TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.

Transport hazard class(es)

6.1(8)

**Packing group, if applicable**

II

Environmental hazards

Acute Aquatic Toxicity Category 2. **DO NOT** allow product to enter the environment.

Special precautions for user

DO NOT load with Classes 1, 2.3, 4.1, 4.2, 4.3, 5.1 and 5.2.

May be loaded with Classes 2.1, 2.2, 6.1, 6.2 and 8A if kept at least 1 metre apart.

DO NOT transport Nitromethane (UN1261) with toxics (Class 6.1).

DO NOT load with foodstuffs or stockfeeds.

Cyanides **must not** be transported with acid.

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.

P, B, L and O provisions as per SANS 10231:2006**L13**

If any substance has leaked and spilt in a vehicle or container, the vehicle or container may not be re-used until after it has been thoroughly cleaned and, if necessary, disinfected or decontaminated. Any other goods and articles carried in the same vehicle or container shall be examined for possible contamination.

L28

Packages shall not be loaded together with packages known to contain foodstuffs, other articles of consumption or animal feeds.

O9

During the carriage of these substances, stops for service requirements shall be as far as possible from inhabited or frequented places. A longer stop near such places is permissible only with the consent of the local emergency services.

O19

The provisions in 5.3.4 concerning the supervision of vehicles shall apply when the total mass of these substances in the vehicle exceeds 5000 kg.

5.3.4

A vehicle that carries dangerous goods shall be under constant supervision while stopped or parked if one or both of the following applies:

- a) the dangerous goods carried have an exempt quantity of 10 kg or 10 L, or less; or
- b) any one or more of special provisions O14 to O20 (inclusive) in C.5 applies.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

15 Regulatory information

Safety, health and environmental regulations specific for the product in question

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

Chemical safety assessment:

Not assessed.

16 Other information

Other information

Full text of H & P - Statements referred to under section 2

Hazard statements

H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H331	Toxic if inhaled.
H401	Toxic to aquatic life.

Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P301+P312	IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.
P304+P340	IF INHALED: Remove victim to fresh air and Keep at rest in a position 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.
P333+P313	Immediately call a POISON CENTER or doctor/physician.
P310	Specific treatment is urgent (see P330+P351+P352 on this label).
P320	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents and container in accordance with local, regional, national, international regulations.

Labelling REGULATION (EC) No 1272/2008

Signal Word

Danger

Pictograms Hazard to Human

GHS05	Corrosive Hazard
GHS06	Acute Toxicity
GHS09	Hazardous to the environment

Pictogram Hazard during Transport

Class 6.1	Toxic substance
Class 8	Corrosive substance

Training advice

Provide adequate information, instruction and training for operators.

Compiled by Aquatrade Water Treatment Chemicals (Pty) Ltd, R. van Rooyen, SHEQ Co-ordinator and E. Le Sar, Director.

MANUFACTURER/SUPPLIER DISCLAIMER:

IMPORTANT: This information is given without a warranty or guarantee. No suggestions for use are intended or shall be construed as a recommendation to infringe any existing patents or violate any national or local laws. Safe handling and use is the responsibility of the customer. Read the label before using this product. This information is true and accurate to the best of our knowledge.

Revision History

Revision:	Date:	Change:
1.0	2019/03/19	Preparation of the safety data sheet according to Regulation (EC) No 1907/2006 of the European Parliament and of the Council
2.0	2019/03/19	Section 1. Product use.