

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : AWT-428 CWT INHIBITOR

Other means of identification : Not applicable.

Recommended use : CLOSED LOOP TREATMENT

Restrictions on use : Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.

Company : APEX CHEMICALS (S) PTE LTD
14 TUAS SOUTH STREET 3,
SINGAPORE 638053
TEL: (65) 6483 5350

Emergency telephone number : (65) 6483 5350 Or Call Fire / SCDF 995

Issuing date : 02.12.2024

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4
Skin corrosion/irritation : Category 1B
Serious eye damage/eye irritation : Category 1
Reproductive toxicity : Category 2
Specific target organ toxicity - single exposure (Oral) : Category 1 (Blood)
Acute aquatic toxicity : Category 1

GHS Label element

Hazard pictograms :



Signal Word : Danger

Hazard Statements : Harmful if swallowed.
Causes severe skin burns and eye damage.
Suspected of damaging fertility or the unborn child.
Causes damage to organs (Blood) if swallowed.
Very toxic to aquatic life.

Precautionary Statements : **Prevention:**
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair):

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Take off immediately all contaminated clothing. Rinse skin with water/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 or doctor/physician. Wash contaminated clothing before reuse. Collect spillage.

Storage:

Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Sodium Nitrite	7632-00-0	30 - 50
Sodium Hydroxide	1310-73-2	2 - 3
Sodium Tolyltriazole	64665-57-2	1 - 2.5

Section: 4. FIRST AID MEASURES

- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
- In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
- If swallowed : Do NOT induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.
- Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.
- Notes to physician : Treat symptomatically.
- Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : None known.
- Specific hazards during firefighting : Not flammable or combustible.

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- Hazardous combustion products : Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx)
- Special protective equipment for firefighters : Use personal protective equipment.
- Specific extinguishing methods : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Section: 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : Do not allow contact with soil, surface or ground water.
- Methods and materials for containment and cleaning up : Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

Section: 7. HANDLING AND STORAGE

- Advice on safe handling : Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.
- Conditions for safe storage : Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
- Suitable material : Keep in properly labelled containers.
- Unsuitable material : not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Sodium Hydroxide	1310-73-2	PEL (short term)	2 mg/m3	SG PEL

- Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

- Eye protection : Safety goggles
Face-shield

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Hand protection	: Wear the following personal protective equipment: Standard glove type. butyl-rubber Nitrile rubber Unsupported neoprene Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Skin protection	: Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
Respiratory protection	: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Inorganic gas/vapour type
Hygiene measures	: Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Liquid
Colour	: Straw-colored
Odour	: odourless
Flash point	: does not flash
pH	: 13.2 - 14,(100 %)
Odour Threshold	: no data available
Melting point/freezing point	: no data available
Initial boiling point and boiling range	: no data available
Evaporation rate	: no data available
Flammability (solid, gas)	: Not applicable.
Upper explosion limit	: no data available
Lower explosion limit	: no data available
Vapour pressure	: similar to water
Relative vapour density	: no data available
Relative density	: 1.305 - 1.325, (28 °C),
Density	: no data available
Water solubility	: completely soluble
Solubility in other solvents	: no data available
Partition coefficient: n-octanol/water	: no data available
Auto-ignition temperature	: no data available

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Thermal decomposition	: no data available
Viscosity, dynamic	: no data available
Viscosity, kinematic	: no data available
Molecular weight	: no data available
VOC	: no data available

Section: 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reaction known under conditions of normal use.
Conditions to avoid	: None known.
Incompatible materials	: Amines Strong acids Reducing agents
Hazardous decomposition products	: In case of fire, hazardous decomposition products may be produced such as: Carbon oxides nitrogen oxides (NOx)

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation, Eye contact, Skin contact

Potential Health Effects

Eyes	: Causes serious eye damage.
Skin	: Causes severe skin burns.
Ingestion	: Harmful if swallowed. Causes digestive tract burns.
Inhalation	: May cause nose, throat, and lung irritation.
Chronic Exposure	: Suspected of damaging fertility or the unborn child. Causes damage to organs.

Experience with human exposure

Eye contact	: Redness, Pain, Corrosion
Skin contact	: Redness, Pain, Corrosion
Ingestion	: Corrosion, Abdominal pain
Inhalation	: Respiratory irritation, Cough

Toxicity

Product

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Acute oral toxicity	: Acute toxicity estimate: 540.5 mg/kg
Acute inhalation toxicity	: Acute toxicity estimate: > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	: no data available
Skin corrosion/irritation	: no data available
Serious eye damage/eye irritation	: no data available
Respiratory or skin sensitization	: no data available
Carcinogenicity	: no data available
Reproductive effects	: no data available
Germ cell mutagenicity	: no data available
Teratogenicity	: no data available
STOT - single exposure	: no data available
STOT - repeated exposure	: no data available
Aspiration toxicity	: no data available

Human Hazard Characterization

Based on our hazard characterization, the potential human hazard is: High

Section: 12. ECOLOGICAL INFORMATION

Toxicity

Environmental Effects	: Very toxic to aquatic life.
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Product

Toxicity to fish	: no data available
Toxicity to daphnia and other aquatic invertebrates	: no data available
Toxicity to algae	: no data available

Components

Toxicity to fish	: Sodium Nitrite LC50 Fish: < 1 mg/l Exposure time: 96 h Sodium Tolytriazole LC50 Cyprinodon variegatus (sheepshead minnow): 55 mg/l Exposure time: 96 h Test substance: Information given is based on data obtained from similar substances.
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Components

Toxicity to daphnia and other aquatic invertebrates	: Sodium Hydroxide EC50 Daphnia magna (Water flea): 40 mg/l Exposure time: 48 h
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Sodium Tolyltriazole
EC50 *Daphnia galeata* (water flea): 8.58 mg/l
Exposure time: 48 h
Test substance: Information given is based on data obtained from similar substances.

Components

Toxicity to algae : Sodium Tolyltriazole
EC50 Aquatic Plant: 53 mg/l
Exposure time: 72 h

Persistence and degradability

Greater than 95% of this product consists of inorganic substances for which a biodegradation value is not applicable.

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.

If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air : <5%
Water : 30 - 50%
Soil : 50 - 70%

The portion in water is expected to be soluble or dispersible.

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

Based on our hazard characterization, the potential environmental hazard is: High

Section: 13. DISPOSAL CONSIDERATIONS

Disposal methods : Do not contaminate storm water drains, natural waterways or soil with chemical or used container. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of contents/container in accordance with local regulations Dispose of in accordance with local and national regulations.

Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

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The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport

UN/ID No. : UN 1760
Proper shipping name : CORROSIVE LIQUID, N.O.S.
Technical name(s) : Sodium Hydroxide, Substituted Triazole
Transport hazard class(es) : 8
Packing group : II

Air transport (IATA)

UN/ID No. : UN 1760
Proper shipping name : CORROSIVE LIQUID, N.O.S.
Technical name(s) : Sodium Hydroxide, Substituted Triazole
Transport hazard class(es) : 8
Packing group : II

Sea transport (IMDG/IMO)

UN/ID No. : UN 1760
Proper shipping name : CORROSIVE LIQUID, N.O.S.
Technical name(s) : Sodium Hydroxide, Substituted Triazole
Transport hazard class(es) : 8
Packing group : II
Marine pollutant : Sodium Nitrite

Special precautions for user : No special precautions required.

Section: 15. REGULATORY INFORMATION

APPLICABLE REGULATIONS, SINGAPORE

Chemical Weapons Prohibition Act
Environmental Protection and Management Act
Hazardous Waste Act
Misuse of Drugs Act
Strategic Goods Act
Singapore Standard SS 586 Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods

Singapore. Environmental Protection and Management (Hazardous Substances) Regulations

All substances in this product comply with the Environmental Protection and Management (Hazardous Substances) Regulations

Arms & Explosives (Amendment) ACT, Cap 13

All substances in this product comply with the Arms and Explosives Act

Fire Safety (Petroleum and Flammable Materials) Regulations

Not applicable.

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

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Australia. Australian Industrial Chemicals Introduction Scheme (AICIS)

All substances in this product comply with the Australian Industrial Chemicals Introduction Scheme (AICIS)

Canadian Domestic Substances List (DSL)

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

Japan. ENCS - Existing and New Chemical Substances Inventory

All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

Korea. Korean Existing Chemicals Inventory (KECI)

All substances in this product comply with the Chemical Control Act (CCA) and are listed on the Existing Chemicals List (ECL)

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand

not determined

Philippines Inventory of Chemicals and Chemical Substances (PICCS)

All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

China Inventory of Existing Chemical Substances

All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on or exempt from the Inventory of Existing Chemical Substances China (IECSC).

Taiwan Chemical Substance Inventory

All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSt).

Section: 16. OTHER INFORMATION

Revision Date	: 02.12.2024
Date of first issue	: 01.03.2013
Version Number	: 1.1
Prepared By	: Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.