

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

1. Identification

Product identifier

Product name Chlorine Pac

Chemical name

Trichloro-s-triazinetrione; Trichloroisocyanuric Acid; TCCA; Trichlor; Trichloros-

triazinetrione; Chloroisocyanurate

Synonyms; trade names AQUA SMARTE Plus MizerMax Pac®

EPA Registration Number 53735-2

Recommended use of the chemical and restrictions on use

Application Swimming pool sanitizer

Uses advised against
Use only for intended applications.

Details of the supplier of the safety data sheet

Supplier King Technology, Inc.

6000 Clearwater Minnetonka, MN 55343

United States

1+ (952) 933-6118

sdsinfo@kingtechnology.com

Emergency telephone number

Emergency telephone CHEMTREC 800-424-9300 (24 hours)

2. Hazard(s) identification

Classification of the substance or mixture

OSHA Regulatory Status The below environmental hazard classification is non-mandatory under the OSHA Hazard

Communication Standard. The environmental classification is according to the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS), 8th revised edition,

2019.

Physical hazards Ox. Sol. 2 - H272

Health hazards Acute Tox. 4 - H302 Acute Tox. 2 - H330 Skin Corr. 1C - H314 Eye Dam. 1 - H318 STOT SE

3 - H335

Environmental hazards Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

Label elements

Hazard symbols











Signal word

Danger

Hazard statements H272 May intensify fire; oxidizer.

H302 Harmful if swallowed.

H330 Fatal if inhaled.

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking.

P220 Keep away from combustible materials.

P221 Take any precaution to avoid mixing with combustibles.

P260 Do not breathe dust. P261 Avoid breathing dust.

P264 Wash contaminated skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P284 In case of inadequate ventilation wear respiratory protection.
P301+P312 If swallowed: Call a poison center/ doctor if you feel unwell.
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/ shower.

Skiii Witii Watci/ Silowci.

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. P310 Immediately call a poison center/ doctor.

P320 Specific treatment is urgent (see medical advice on this label).

P321 Specific treatment (see medical advice on this label).

P363 Wash contaminated clothing before reuse.

P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

P391 Collect spillage.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/ container in accordance with national regulations.

Precautionary statements

P101: If medical advice is needed, have product container or label at hand.

P102: Keep out of reach of children.

P103: Read label before use.

Contains

Trichloroisocyanuric acid

Other hazards

Other

No additional hazards known.

«46»% of the mixture consists of ingredient(s) of unknown acute toxicity.

3. Composition/information on ingredients

Mixtures

Trichloroisocyanuric acid 96 - 100%

CAS number: 87-90-1

M factor (Acute) = 1000 M factor (Chronic) = 100

Classification

Ox. Sol. 2 - H272
Acute Tox. 4 - H302
Acute Tox. 2 - H330
Skin Corr. 1C - H314
Eye Dam. 1 - H318
STOT SE 3 - H335
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

The full text for all hazard statements is displayed in Section 16.

4. First-aid measures

Description of first aid measures

General information Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical

personnel. Chemical burns must be treated by a physician.

Inhalation Move affected person to fresh air and keep warm and at rest in a position comfortable for

breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention. Place unconscious person on their side in the recovery

position and ensure breathing can take place.

Ingestion Rinse mouth thoroughly with water. Give a few small glasses of water or milk to drink. Stop if

the affected person feels sick as vomiting may be dangerous. Never give anything by mouth to an unconscious person. Place unconscious person on their side in the recovery position and ensure breathing can take place. Keep affected person under observation. Get medical

attention if symptoms are severe or persist.

Skin Contact It is important to remove the substance from the skin immediately. Rinse immediately with

plenty of water. Continue to rinse for at least 15 minutes and get medical attention. Chemical

burns must be treated by a physician.

Eye contact Rinse immediately with plenty of water. Do not rub eye. Remove any contact lenses and open

eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

Protection of first aidersIt may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

General information The severity of the symptoms described will vary dependent on the concentration and the

length of exposure.

Inhalation A single exposure may cause the following adverse effects: Difficulty in breathing.

Unconsciousness, possibly death.

Ingestion May cause chemical burns in mouth, esophagus and stomach. Symptoms following

overexposure may include the following: Severe stomach pain. Nausea, vomiting.

Skin contact Causes severe burns. Symptoms following overexposure may include the following: Pain or

irritation. Redness. Blistering may occur.

Eye contact Causes serious eye damage. Symptoms following overexposure may include the following:

Pain. Profuse watering of the eyes. Redness.

Indication of immediate medical attention and special treatment needed

Notes for the doctor

Treat symptomatically. Probable mucosal damage may contraindicate the use of gastric

lavage. Keep affected person under observation.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Water. The product is not flammable.

Unsuitable extinguishing

Do not use the following: Dry chemicals. Carbon dioxide (CO2). Ammonia. Halon

media

replacement.

Special hazards arising from the substance or mixture

Specific hazards May cause or intensify fire; oxidizer. This product is toxic.

Hazardous combustion

products

Thermal decomposition or combustion products may include the following substances: Very toxic or corrosive gases or vapors. Chlorine. Hydrogen chloride (HCI). Nitrous gases (NOx). Carbon monoxide (CO). Nitrogen trichloride.

Advice for firefighters

Protective actions during firefighting

Avoid breathing fire gases or vapors. Evacuate area. Keep upwind to avoid inhalation of gases, vapors, fumes and smoke. Ventilate closed spaces before entering them. May cause or intensify fire; oxidizer. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment

for firefighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be

taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid inhalation of dust. Use suitable respiratory protection if ventilation is

inadequate. Avoid contact with skin and eyes.

Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the

aquatic environment.

Methods and material for containment and cleaning up

Methods for cleaning up

Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Do not use sawdust or other combustible material. This product is corrosive. Provide adequate ventilation. Collect spillage with a shovel and broom, or similar and reuse, if possible. Collect and place in suitable waste disposal containers and seal securely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. For waste disposal, see Section 13.

Reference to other sections

For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

7. Handling and storage

Precautions for safe handling

Usage precautions

Keep out of the reach of children. Read and follow manufacturer's recommendations. This product is not to be used under conditions of poor ventilation. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use. This product is toxic. This product is corrosive. Immediate first aid is imperative. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene

Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Storage precautions

Store away from incompatible materials (see Section 10). Keep at temperature not exceeding 40°C/104°F. Store locked up. Keep away from heat, sparks and open flame. Keep away from flammable and combustible materials. Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep containers upright. Protect containers from damage.

Storage class

Oxidizer storage.

Specific end uses(s)

Specific end use(s)

The identified uses for this product are detailed in Section 1.

8. Exposure controls/Personal protection

Control parameters

Occupational exposure limits

OSHA Permissible Exposure Limit (PEL): TWA 15 mg/m3 (total dust)
OSHA Permissible Exposure Limit (PEL): TWA 5 mg/m3 (respirable dust)
Long-term Exposure Limit (8-hour TWA): ACGIH 3 mg/m³ respirable fraction
Long-term Exposure Limit (8-hour TWA): ACGIH 10 mg/m³ inhalable fraction

Exposure controls

Protective equipment















Appropriate engineering controls

Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimize worker exposure. Ensure the ventilation system is regularly maintained and tested. In case of insufficient ventilation, wear suitable respiratory equipment. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-

face respirator may be required instead.

Hand protection Wear protective gloves. The most suitable glove should be chosen in consultation with the

glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with OSHA 1910.138 and be demonstrated to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected.

Frequent changes are recommended.

Other skin and body

protection

Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures Wash after use and before eating, smoking and using the toilet. Take off contaminated

clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Clean

equipment and the work area every day.

Respiratory protection Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH

approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Acid

gas filter.

Environmental exposure

controls

Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance White granules or tablet-formed product

Color White.

Odor Chlorine.

Odor threshold No information available.

pH (diluted solution): 2.7-2.9 1%

Melting point 225-230°C/437-446°F (decomposes)

Initial boiling point and range Not applicable. (decomposes)

Flash point Not applicable. (decomposes)

Evaporation rate No information available.

Evaporation factor No information available.

Flammability (solid, gas) No information available.

Upper/lower flammability or

explosive limits

No information available.

Other flammability No information available.

Vapor pressure No information available.

Vapor density No information available.

Relative density > 1

Bulk density Granular: 0.89-1.1 g/cm3

Tablet: 1.16-1.9 g/cm3

Solubility(ies) 1.2 g/100 g water @ 25°C

Partition coefficient No information available.

Auto-ignition temperature No information available.

Decomposition Temperature ~250°C/~482°F

Viscosity No information available.

10. Stability and reactivity

Reactivity See the other subsections of this section for further details.

Stable at normal ambient temperatures and when used as recommended. Stable under the

prescribed storage conditions.

Possibility of hazardous

reactions

Converted to Hypochlorous acid and Isocyanuric acid when dissolved in water.

Conditions to avoid Avoid contact with water or moisture until ready for use. Avoid exposure to high temperatures

or direct sunlight. Keep at temperature not exceeding 40°C/104°F.

Materials to avoid Reducing agents. Acids. Flammable/combustible materials. Hydrocarbons. Grease. Organic

cyanides (nitriles). Esters. Some metals. Ammonia. Alkalis. Oxidizing agents.

Hazardous decomposition

products

Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Chlorine. Hydrogen chloride (HCl). Carbon monoxide (CO). Carbon dioxide (CO2). Nitrous gases (NOx). Nitrogen

trichloride.

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ 809 mg/kg, Oral, Rat

Acute Tox. 4 - H302 Harmful if swallowed.

ATE oral (mg/kg) 817.17

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

LD₅₀ > 2000 mg/kg, Dermal, Rabbit

Acute toxicity - inhalation

Summary This material in the form as sold is not expected to produce respiratory effects. Particles of

respirable size are generally not encountered. The respirable fraction is typically less than 0.1% by weight for the granular and extra granular grades. If ground or otherwise in a powdered form, effects similar to a corrosive substance may occur. Exposure to the solid product or to free chlorine evolving from the product may cause irritation, redness of upper

and lower airways, coughing, laryngeospasm and edema, shortness of

breath, bronchoconstriction, and possible pulmonary edema. The pulmonary edema may

develop several hours after a severe acute exposure.

Notes (inhalation LC₅₀) Acute Tox. 2 - H330 Fatal if inhaled.

ATE inhalation (dusts/mists

mg/l)

0.29

Skin corrosion/irritation Skin

corrosion/irritation Causes severe burns.

Serious eye damage/irritation

Serious eye damage/irritation Eye Dam. 1 - H318 Causes serious eye damage.

Respiratory sensitization

Respiratory sensitization Based on available data the classification criteria are not met.

Skin sensitization

Skin sensitizationBased on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitroBased on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

None of the ingredients are listed.

IARC carcinogenicity

None of the ingredients are listed.

OSHA Carcinogenicity None of the ingredients are listed.

Reproductive toxicity

NTP carcinogenicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity -

development

Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure STOT SE 3 - H335 May cause respiratory irritation.

Target organs Respiratory system, lungs

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Not relevant. Solid.

General information The severity of the symptoms described will vary dependent on the concentration and the

length of exposure.

Inhalation A single exposure may cause the following adverse effects: Drowsiness, dizziness,

disorientation, vertigo. Unconsciousness. High concentrations may be fatal.

Ingestion May cause irritation.

Skin Contact Redness. Irritating to skin.

Eye contact Causes serious eye damage. Symptoms following overexposure may include the following:

Pain. Profuse watering of the eyes. Redness.

Route of exposure Ingestion Inhalation Skin and/or eye contact

Target Organs Respiratory system, lungs

12. Ecological information

Toxicity Aquatic Acute 1 - H400 Very toxic to aquatic life. Aquatic Chronic 1 - H410 Very toxic to

aquatic life with long lasting effects.

Acute aquatic toxicity

Acute toxicity - fish LC₈₀, 0.22 hours: 96 mg/l, Oryzias latipes (Red killifish)

Persistence and degradability

Persistence and degradability The degradability of the product is not known.

Bioaccumulative potential

Bio-Accumulative Potential The product is not bioaccumulating.

Partition coefficient No information available.

Mobility in soil

Mobility No data available.

Other adverse effects

Other adverse effects None known.

13. Disposal considerations

Waste treatment methods

General information The generation of waste should be minimized or avoided wherever possible. Reuse or recycle

products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product

residues and hence be potentially hazardous.

Disposal methods Do not empty into drain without the following treatment. Dissolve product in large amounts of

water and add reducing agent gradually. After decomposing residual chlorine, adjust pH to

neutral. Then it can be discharged to water.

Do not dispose into garbage can or garbage dump: may cause fire. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Incineration or

landfill should only be considered when recycling is not feasible.

14. Transport information

General This product, when packaged in quantities of 2.2 pounds or less and meeting all other

packaging requirements in 49 CFR, may be shipped per 49 CFR 173.152 as Limited Quantity.

Product packaged over 2.2 pounds will be fully regulated as defined below:

UN Number

UN No. (DOT) UN2468

UN proper shipping name

Proper shipping name (DOT) TRICHLOROISOCYANURIC ACID, DRY

Transport hazard class(es)

DOT hazard class 5.1

DOT hazard label 5.1

DOT transport labels



Packing group

DOT packing group

15. Regulatory information

United States FIFRA - Pesticide Labeling

This product is a US EPA FIFRA registered pesticide (EPA Reg. No.: 53735-2) and is subject to certain labeling requirements under federal pesticide law. These requirements may differ from the classification criteria and hazard information required for an OHSA GHS SDS. The following is the hazard information as required on the FIFRA label:

Signal Word DANGER

Hazard Statements

- · Corrosive. Causes irreversible eye damage and skin burns
- · Harmful if swallowed or absorbed through skin
- · May be fatal if inhaled
- · Irritating to nose and throat
- STRONG OXIDIZING AGENT
- · This pesticide is toxic to fish and aquatic organisms
- · Keep out of reach of children

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities Not applicable.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

Not applicable.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

Not applicable.

SARA 313 Emission Reporting

87-90-1

CAA Accidental Release Prevention

Not applicable.

FDA - Essential Chemical

Not applicable.

FDA - Precursor Chemical

Not applicable.

SARA (311/312) Hazard Categories

Acute
Oxidizer (liquid, solid or gas)
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

OSHA Highly Hazardous Chemicals

Not applicable.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

None of the ingredients are listed.

California Air Toxics "Hot Spots" (A-I)

Not applicable.

California Air Toxics "Hot Spots" (A-II)

Not applicable.

California Directors List of Hazardous Substances

The following ingredients are listed: Trichloroisocyanuric acid

Massachusetts "Right To Know" List

87-90-

Rhode Island "Right To Know" List

87-90-1

Minnesota "Right To Know" List

Not applicable.

New Jersey "Right To Know" List

87-90-1

Pennsylvania "Right To Know" List

87-90-1

Inventories

US - TSCA

All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification

Not applicable.

16. Other information

Abbreviations and acronyms used in the safety data sheet

TDG: The transport of dangerous goods act

IATA: International air transport association.

ICAO: Technical instructions for the safe transport of dangerous goods by air.

IMDG: International maritime dangerous goods.

CAS: Chemical abstracts service.

ATE: Acute toxicity estimate.

LC50: Lethal concentration to 50 % of a test population.

 $LD_{50}\!:$ Lethal dose to 50% of a test population (median lethal dose).

EC₅₀: 50% of maximal effective concentration.

PBT: Persistent, bioaccumulative and toxic substance.

vPvB: Very persistent and very bioaccumulative.

Revision 5 Revision Date 10/24/2022

Chlorine Pac

Classification abbreviations

and acronyms

Ox. Sol. = Oxidising solid
Acute Tox. = Acute toxicity

Eye Dam. = Serious eye damage Skin Corr. = Skin corrosion

STOT SE = Specific target organ toxicity-single exposure
Aquatic Acute = Hazardous to the aquatic environment (acute)
Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Revision date 10/24/2022

Revision 5

SDS No. 4828

Hazard statements in full H272 May intensify fire; oxidizer.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H330 Fatal if inhaled.

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

The information provided on the SDS is correct to the best of our knowledge, information, and belief at the date of this publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal, and release, and is not to be considered as 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 material or in any process, unless specified in the text.