

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/14/2024

Reviewed on 06/14/2024

## 1 Identification

- **Product identifier**
- **Trade name:** *Chloride Std 100.0 ppm w/w  
in Isooctane (Cl source: 2,4-Dichlorophenol)*
- **Article number:** GEN164
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Aqua Solutions, Inc.  
6913 Highway 225  
DEER PARK, TX 77536  
USA  
800-256-2586
- **Information department:**  
Technical Coordinator  
Sherman Nelson [shermann@aquasolutions.org](mailto:shermann@aquasolutions.org)
- **Emergency telephone number:**  
Chemtrec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids 2

H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Aspiration Hazard 1

H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

Specific Target Organ Toxicity - Single Exposure 3 H336 May cause drowsiness or dizziness.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** *Danger*
- **Hazard-determining components of labeling:**  
2,2,4-Trimethylpentane (Iso-Octane)
- **Hazard statements**  
*Highly flammable liquid and vapor.*

(Contd. on page 2)

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(Contd. of page 1)

*Causes skin irritation.*

*May cause drowsiness or dizziness.*

*May be fatal if swallowed and enters airways.*

**· Precautionary statements**

*Keep away from heat/sparks/open flames/hot surfaces. - No smoking.*

*Ground/bond container and receiving equipment.*

*Use explosion-proof electrical/ventilating/lighting/equipment.*

*Use only non-sparking tools.*

*Take precautionary measures against static discharge.*

*Avoid breathing dust/fume/gas/mist/vapors/spray*

*Wash thoroughly after handling.*

*Use only outdoors or in a well-ventilated area.*

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

*If swallowed: Immediately call a poison center/doctor.*

*Specific treatment (see on this label).*

*Do NOT induce vomiting.*

*If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*Call a poison center/doctor if you feel unwell.*

*Take off contaminated clothing and wash it before reuse.*

*If skin irritation occurs: Get medical advice/attention.*

*In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.*

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

*Store in a well-ventilated place. Keep cool.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

**· Classification system:**

**· NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 3

Reactivity = 0

**· HMIS-ratings (scale 0 - 4)**



Health = 1

Fire = 3

Reactivity = 0

**· Other hazards**

**· Results of PBT and vPvB assessment**

**· PBT:** Not applicable.

**· vPvB:** Not applicable.

## 3 Composition/information on ingredients

**· Chemical characterization: Mixtures**

**· Description:** Mixture of the substances listed below with nonhazardous additions.

**· Dangerous components:**

CAS: 540-84-1	2,2,4-Trimethylpentane (Iso-Octane)	99.977%
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(Contd. on page 3)

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**Trade name: Chloride Std 100.0 ppm w/w  
in Isooctane (Cl source: 2,4-Dichlorophenol)**

(Contd. of page 2)

### · Table of Nonhazardous Ingredients

CAS: 120-83-2	2,4-Dichlorophenol	0.023%
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## 4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to section 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

### · PAC-1:

CAS: 540-84-1	2,2,4-Trimethylpentane (Iso-Octane)	230 ppm
CAS: 120-83-2	2,4-Dichlorophenol	0.2 ppm

### · PAC-2:

CAS: 540-84-1	2,2,4-Trimethylpentane (Iso-Octane)	830 ppm
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(Contd. on page 4)

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in Isooctane (Cl source: 2,4-Dichlorophenol)**

(Contd. of page 3)

CAS: 120-83-2	2,4-Dichlorophenol	2 ppm
<b>· PAC-3:</b>		
CAS: 540-84-1	2,2,4-Trimethylpentane (Iso-Octane)	5000* ppm
CAS: 120-83-2	2,4-Dichlorophenol	20 ppm

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.

- **Control parameters**

<b>· Components with limit values that require monitoring at the workplace:</b>	
CAS: 540-84-1 2,2,4-Trimethylpentane (Iso-Octane)	
TLV	Long-term value: 300 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Avoid contact with the skin.
- Avoid contact with the eyes and skin.

- **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **Protection of hands:**



Protective gloves

(Contd. on page 5)

US

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(Contd. of page 4)

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Sweetish
<b>Odor threshold:</b>	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

<b>Melting point/Melting range:</b>	-107.4 °C (-161.3 °F)
<b>Boiling point/Boiling range:</b>	98 °C (208.4 °F)

- **Flash point:** -12 °C (10.4 °F)

- **Flammability (solid, gaseous):** Highly flammable.

- **Auto igniting:** 410 °C (770 °F)

- **Decomposition temperature:** Not determined.

- **Ignition temperature:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Explosion limits:**

<b>Lower:</b>	1.1 Vol %
<b>Upper:</b>	6 Vol %

- **Vapor pressure at 20 °C (68 °F):** 15 hPa (11.3 mm Hg)

- **Density at 20 °C (68 °F):** 0.69216 g/cm<sup>3</sup> (5.77608 lbs/gal)

- **Relative density** Not determined.

- **Vapor density** Not determined.

(Contd. on page 6)

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(Contd. of page 5)

· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	100.0 %
<b>VOC content:</b>	99.98 %
	692.0 g/l / 5.78 lb/gal
<b>Solids content:</b>	0.0 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant
- **Carcinogenic categories**

### · IARC (International Agency for Research on Cancer)

CAS: 120-83-2	2,4-Dichlorophenol	2B
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### · NTP (National Toxicology Program)

None of the ingredients is listed.

### · OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

US

(Contd. on page 7)

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(Contd. of page 6)


## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (Self-assessment): hazardous for water  
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.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- **UN-Number**
- **DOT, IMDG, IATA** UN1993
- **UN proper shipping name**
- **DOT** Flammable liquids, n.o.s. (Octanes)
- **IMDG** FLAMMABLE LIQUID, N.O.S. (Octanes), MARINE POLLUTANT
- **IATA** FLAMMABLE LIQUID, N.O.S. (Octanes)
- **Transport hazard class(es)**
- **DOT**
- 
- **Class** 3 Flammable liquids
- **Label** 3

(Contd. on page 8)

US

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(Contd. of page 7)

· **IMDG**



· **Class** 3 Flammable liquids  
· **Label** 3

· **IATA**



· **Class** 3 Flammable liquids  
· **Label** 3

· **Packing group**  
· **DOT, IMDG, IATA** II

· **Environmental hazards:** Product contains environmentally hazardous substances: Octanes  
· **Marine pollutant:** Symbol (fish and tree)

· **Special precautions for user** Warning: Flammable liquids  
· **Hazard identification number (Kemler code):** 33  
· **EMS Number:** F-E, S-E  
· **Stowage Category** B

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**  
· **Quantity limitations** On passenger aircraft/rail: 5 L  
On cargo aircraft only: 60 L

· **IMDG**

· **Limited quantities (LQ)** 1L  
· **Excepted quantities (EQ)** Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN 1993 FLAMMABLE LIQUID, N.O.S. (OCTANES), 3, II

## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
No further relevant information available.  
· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

CAS: 120-83-2	2,4-Dichlorophenol
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(Contd. on page 9)



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in Isooctane (Cl source: 2,4-Dichlorophenol)**

(Contd. of page 8)

<b>· TSCA (Toxic Substances Control Act):</b>	
2,2,4-Trimethylpentane (Iso-Octane)	ACTIVE
2,4-Dichlorophenol	ACTIVE

<b>· Hazardous Air Pollutants</b>	
CAS: 540-84-1	2,2,4-Trimethylpentane (Iso-Octane)

<b>· Proposition 65</b>	
<b>· Chemicals known to cause cancer:</b>	
None of the ingredients is listed.	

<b>· Chemicals known to cause reproductive toxicity for females:</b>	
None of the ingredients is listed.	

<b>· Chemicals known to cause reproductive toxicity for males:</b>	
None of the ingredients is listed.	

<b>· Chemicals known to cause developmental toxicity:</b>	
None of the ingredients is listed.	

<b>· Carcinogenic categories</b>	
<b>· EPA (Environmental Protection Agency)</b>	
CAS: 540-84-1	2,2,4-Trimethylpentane (Iso-Octane) II

<b>· TLV (Threshold Limit Value)</b>	
None of the ingredients is listed.	

<b>· NIOSH-Ca (National Institute for Occupational Safety and Health)</b>	
None of the ingredients is listed.	

- GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- Hazard pictograms**



- Signal word** *Danger*

- Hazard-determining components of labeling:**

2,2,4-Trimethylpentane (Iso-Octane)

- Hazard statements**

Highly flammable liquid and vapor.

Causes skin irritation.

May cause drowsiness or dizziness.

May be fatal if swallowed and enters airways.

- Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

(Contd. on page 10)

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(Contd. of page 9)

If swallowed: Immediately call a poison center/doctor.  
 Specific treatment (see on this label).  
 Do NOT induce vomiting.  
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 Call a poison center/doctor if you feel unwell.  
 Take off contaminated clothing and wash it before reuse.  
 If skin irritation occurs: Get medical advice/attention.  
 In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.  
 Store in a well-ventilated place. Keep container tightly closed.  
 Store in a well-ventilated place. Keep cool.  
 Store locked up.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Environment protection department.

- **Contact:**

Date of Preparation / Last Revision:

- **Date of preparation / last revision**

Revision 0.1, 06/14/2024: Reviewed SDS for accuracy. MH/STN

Revision 0.0, 05-29-2024: Creation date for SDS. STN

06/14/2024 / 1.0

- **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flammable Liquids 2: Flammable liquids – Category 2

Skin Irritation 2: Skin corrosion/irritation – Category 2

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

Aspiration Hazard 1: Aspiration hazard – Category 1

- **\* Data compared to the previous version altered.**

US