

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/10/2023

Reviewed on 08/10/2023

1 Identification

- **Product identifier**
- **Trade name:** Chloride Mixed Indicator Reagent
- **Article number:** GCT004
- **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
- **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

Specific Target Organ Toxicity - Single Exposure 2 H371 May cause damage to the central nervous system and the visual organs.

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



GHS02



GHS08

- **Signal word** *Danger*
- **Hazard-determining components of labeling:**
Methanol
- **Hazard statements**
Highly flammable liquid and vapor.
May cause damage to the central nervous system and the visual organs.
- **Precautionary statements**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/10/2023

Reviewed on 08/10/2023

**Trade name: Chloride Mixed
Indicator Reagent**

(Contd. of page 1)

Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF exposed or concerned: Call a poison center/doctor.
In case of fire: Use CO₂, powder or water spray to extinguish.
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 = 0

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

| | | |
|------------|---|----------------|
| HEALTH | 1 | Health = 1 |
| FIRE | 3 | Fire = 3 |
| REACTIVITY | 0 | 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: 64-17-5 | Ethyl Alcohol, Absolute 200 Proof | 89.386% |
| CAS: 67-56-1 | Methanol | 4.981% |
| CAS: 67-63-0 | Isopropanol | 4.939% |

· **Table of Nonhazardous Ingredients**

| | | |
|---------------|-----------------------|--------|
| CAS: 538-62-5 | 1,5-diphenylcarbazone | 0.631% |
| CAS: 115-39-9 | Bromophenol Blue | 0.063% |

4 First-aid measures

· **Description of first aid measures**

· **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Immediately rinse with water.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** If symptoms persist consult doctor.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/10/2023

Reviewed on 08/10/2023

**Trade name: Chloride Mixed
Indicator Reagent**

(Contd. of page 2)

- **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:**
CO₂, 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**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** 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: 64-17-5 | Ethyl Alcohol, Absolute 200 Proof | 1,800 ppm |
| CAS: 67-56-1 | Methanol | 530 ppm |
| CAS: 67-63-0 | Isopropanol | 400 ppm |
| CAS: 115-39-9 | Bromophenol Blue | 30 mg/m ³ |

- **PAC-2:**

| | | |
|---------------|-----------------------------------|-----------------------|
| CAS: 64-17-5 | Ethyl Alcohol, Absolute 200 Proof | 3300* ppm |
| CAS: 67-56-1 | Methanol | 2,100 ppm |
| CAS: 67-63-0 | Isopropanol | 2000* ppm |
| CAS: 115-39-9 | Bromophenol Blue | 330 mg/m ³ |

- **PAC-3:**

| | | |
|--------------|-----------------------------------|-------------|
| CAS: 64-17-5 | Ethyl Alcohol, Absolute 200 Proof | 15000* ppm |
| CAS: 67-56-1 | Methanol | 7200* ppm |
| CAS: 67-63-0 | Isopropanol | 12000** ppm |

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/10/2023

Reviewed on 08/10/2023

**Trade name: Chloride Mixed
Indicator Reagent**

CAS: 115-39-9 Bromophenol Blue

(Contd. of page 3)

2,000 mg/m³

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.
Keep respiratory protective device available.
- **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**

- **Components with limit values that require monitoring at the workplace:**

CAS: 64-17-5 Ethyl Alcohol, Absolute 200 Proof

| | |
|-----|--|
| PEL | Long-term value: 1900 mg/m ³ , 1000 ppm |
| REL | Long-term value: 1900 mg/m ³ , 1000 ppm |
| TLV | Short-term value: 1000 ppm |
| A3 | |

CAS: 67-56-1 Methanol

| | |
|-----|---|
| PEL | Long-term value: 260 mg/m ³ , 200 ppm |
| REL | Short-term value: 325 mg/m ³ , 250 ppm |
| | Long-term value: 260 mg/m ³ , 200 ppm |
| | Skin |
| TLV | Short-term value: 250 ppm |
| | Long-term value: 200 ppm |
| | Skin; BEI |

CAS: 67-63-0 Isopropanol

| | |
|-----|--|
| PEL | Long-term value: 980 mg/m ³ , 400 ppm |
| REL | Short-term value: 1225 mg/m ³ , 500 ppm |
| | Long-term value: 980 mg/m ³ , 400 ppm |
| TLV | Short-term value: 400 ppm |
| | Long-term value: 200 ppm |
| | BEI, A4 |

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/10/2023

Reviewed on 08/10/2023

**Trade name: Chloride Mixed
Indicator Reagent**

(Contd. of page 4)

· Ingredients with biological limit values:

CAS: 67-56-1 Methanol

BEI 15 mg/L
LD50 Intraperitoneal: urine
Time: end of shift
LD50: Methanol (background, nonspecific)

CAS: 67-63-0 Isopropanol

BEI 40 mg/L
LD50 Intraperitoneal: urine
Time: end of shift at end of workweek
LD50: Acetone (background, nonspecific)

· **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.

· **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

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

US

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/10/2023

Reviewed on 08/10/2023

**Trade name: Chloride Mixed
Indicator Reagent**

(Contd. of page 5)

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

| | |
|------------------------|-------------------|
| Form: | Liquid |
| Color: | Dark orange color |
| Odor: | Alcohol |
| Odor threshold: | Not determined. |

· **pH-value:** Not determined.

· **Change in condition**

| | |
|-------------------------------------|------------------|
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | 78 °C (172.4 °F) |

· **Flash point:** 13 °C (55.4 °F)

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

· **Auto igniting:** 425 °C (797 °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:**

| | |
|---------------|-----------|
| Lower: | 3.5 Vol % |
| Upper: | 19 Vol % |

· **Vapor pressure at 20 °C (68 °F):** 59 hPa (44.3 mm Hg)

· **Density at 20 °C (68 °F):** 0.792 g/cm³ (6.60924 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

| | |
|-------------------|-----------------|
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |

· **Solvent content:**

| | |
|--------------------------|-------------------------|
| Organic solvents: | 99.3 % |
| VOC content: | 99.31 % |
| | 786.5 g/l / 6.56 lb/gal |

Solids content: 0.1 %

· **Other information** No further relevant information available.

US

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/10/2023

Reviewed on 08/10/2023

**Trade name: Chloride Mixed
Indicator Reagent**

(Contd. of page 6)

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:**

· **LD/LC50 values that are relevant for classification:**

ATE (Acute Toxicity Estimate)

| | | |
|------------|---------|-------------|
| Oral | LD50 | 2,008 mg/kg |
| Dermal | LD50 | 6,023 mg/kg |
| Inhalative | LC50/4h | 60.2 mg/l |

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **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:

- **Carcinogenic categories**

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

| | | |
|--------------|-----------------------------------|---|
| CAS: 64-17-5 | Ethyl Alcohol, Absolute 200 Proof | 1 |
| CAS: 67-63-0 | Isopropanol | 3 |

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/10/2023

Reviewed on 08/10/2023

**Trade name: Chloride Mixed
Indicator Reagent**



(Contd. of page 7)

- **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

- | | |
|--|---|
| <ul style="list-style-type: none"> · UN-Number · DOT, IMDG, IATA | <p style="margin-left: 20px;">UN1993</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · IMDG, IATA | <p style="margin-left: 20px;">Flammable liquids, n.o.s. (Ethanol, Methanol, Isopropanol) FLAMMABLE LIQUID, N.O.S. (Ethanol, Methanol, Isopropanol)</p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT | <div style="text-align: center; margin-bottom: 10px;">  </div> <p style="margin-left: 20px;">3 Flammable liquids</p> |
| <ul style="list-style-type: none"> · Class · Label | <p style="margin-left: 20px;">3</p> |
| <ul style="list-style-type: none"> · IMDG, IATA | <div style="text-align: center; margin-bottom: 10px;">  </div> <p style="margin-left: 20px;">3 Flammable liquids</p> |
| <ul style="list-style-type: none"> · Class · Label | <p style="margin-left: 20px;">3</p> |
| <ul style="list-style-type: none"> · Packing group · DOT, IMDG, IATA | <p style="margin-left: 20px;">II</p> |
| <ul style="list-style-type: none"> · Environmental hazards: | <p style="margin-left: 20px;">Not applicable.</p> |
| <ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category | <p style="margin-left: 20px;">Warning: Flammable liquids 33 F-E, S-E B</p> |

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/10/2023

Reviewed on 08/10/2023

**Trade name: Chloride Mixed
Indicator Reagent**

(Contd. of page 8)

- | | |
|--|---|
| · 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 |
| <hr style="border-top: 1px dashed black;"/> | |
| · 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. (ETHANOL, METHANOL, ISOPROPANOL), 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: 67-56-1 | Methanol |
|--------------|----------|

| | |
|--------------|-------------|
| CAS: 67-63-0 | Isopropanol |
|--------------|-------------|

| |
|---|
| · TSCA (Toxic Substances Control Act): |
|---|

| | |
|-----------------------------------|--------|
| Ethyl Alcohol, Absolute 200 Proof | ACTIVE |
|-----------------------------------|--------|

| | |
|----------|--------|
| Methanol | ACTIVE |
|----------|--------|

| | |
|-------------|--------|
| Isopropanol | ACTIVE |
|-------------|--------|

| | |
|-----------------------|--------|
| 1,5-diphenylcarbazone | ACTIVE |
|-----------------------|--------|

| | |
|------------------|--------|
| Bromophenol Blue | ACTIVE |
|------------------|--------|

| |
|-----------------------------------|
| · Hazardous Air Pollutants |
|-----------------------------------|

| | |
|--------------|----------|
| CAS: 67-56-1 | Methanol |
|--------------|----------|

| |
|-------------------------|
| · Proposition 65 |
|-------------------------|

| |
|---|
| · Chemicals known to cause cancer: |
|---|

| |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

| |
|--|
| · Chemicals known to cause reproductive toxicity for females: |
|--|

| |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

| |
|--|
| · Chemicals known to cause reproductive toxicity for males: |
|--|

| |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

| |
|---|
| · Chemicals known to cause developmental toxicity: |
|---|

| | |
|--------------|-----------------------------------|
| CAS: 64-17-5 | Ethyl Alcohol, Absolute 200 Proof |
|--------------|-----------------------------------|

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/10/2023

Reviewed on 08/10/2023

**Trade name: Chloride Mixed
Indicator Reagent**

(Contd. of page 9)

CAS: 67-56-1 Methanol

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

CAS: 64-17-5 Ethyl Alcohol, Absolute 200 Proof

A3

CAS: 67-63-0 Isopropanol

A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

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

· **Hazard pictograms**



GHS02 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

Methanol

· **Hazard statements**

Highly flammable liquid and vapor.

May cause damage to the central nervous system and the visual organs.

· **Precautionary statements**

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

Keep container tightly closed.

Ground/bond container and receiving equipment.

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

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

Wash thoroughly after handling.

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

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

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

IF exposed or concerned: Call a poison center/doctor.

In case of fire: Use CO₂, powder or water spray to extinguish.

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:**

(Contd. on page 11)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/10/2023

Reviewed on 08/10/2023

**Trade name: Chloride Mixed
Indicator Reagent**

(Contd. of page 10)

· Date of preparation / last revision*Revision 1.0, 08/10/2023: Reviewed SDS for Accuracy.. STN**Revision 0.0, 05-05-2016: Creation date for SDS. STN**08/10/2023***· 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)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**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**BEI: Biological Exposure Limit**Flammable Liquids 2: Flammable liquids – Category 2**Specific Target Organ Toxicity - Single Exposure 2: Specific target organ toxicity (single exposure) – Category 2***· * Data compared to the previous version altered.**

US