

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/14/2024

Reviewed on 06/14/2024

1 Identification

- **Product identifier**
- **Trade name:** Schulze's Solution
(Chlor-Zinc-Iodide) for Cellulose
- **Article number:** MID256
- **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**



GHS08 Health hazard

Specific Target Organ Toxicity - Repeated Exposure 1 H372 Causes damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Skin Corrosion 1B

H314 Causes severe skin burns and eye damage.

Eye Damage 1

H318 Causes serious eye damage.



GHS07

Acute Toxicity - Oral 4

H302 Harmful if swallowed.

Specific Target Organ Toxicity - Single Exposure 3

H335 May cause respiratory irritation.

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



GHS05



GHS07



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
Zinc Chloride

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/14/2024

Reviewed on 06/14/2024

Trade name: Schulze's Solution
(Chlor-Zinc-Iodide) for Cellulose

(Contd. of page 1)

Potassium Iodide

Iodine *DEA regulated item

· **Hazard statements**

Harmful if swallowed.

Causes severe skin burns and eye damage.

May cause respiratory irritation.

Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

Do not breathe dusts or mists.

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.

If swallowed: Call a poison center/doctor if you feel unwell.

If swallowed: Rinse mouth. 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.

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/doctor.

Specific treatment (see on this label).

Get medical advice/attention if you feel unwell.

Wash contaminated clothing before reuse.

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

Store locked up.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 3

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *3

Fire = 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: 7646-85-7	Zinc Chloride	40.0%
CAS: 7681-11-0	Potassium Iodide	2.0%
CAS: 7553-56-2	Iodine *DEA regulated item	1.0%

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

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Trade name: Schulze's Solution
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(Contd. of page 2)

· Table of Nonhazardous Ingredients	
CAS: 7732-18-5	Water
57.0%	

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **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. Then consult a doctor.
- **After swallowing:**
Immediately call a doctor.
Drink copious amounts of water and provide fresh air. Immediately call a 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:** Use fire fighting measures that suit the environment.
- **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 product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
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).
Use neutralizing agent.
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.

(Contd. on page 4)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/14/2024

Reviewed on 06/14/2024

Trade name: Schulze's Solution
(Chlor-Zinc-Iodide) for Cellulose

(Contd. of page 3)

· Protective Action Criteria for Chemicals

· PAC-1:

CAS: 7646-85-7	Zinc Chloride	2 mg/m ³
CAS: 7681-11-0	Potassium Iodide	1.3 mg/m ³
CAS: 7553-56-2	Iodine *DEA regulated item	0.1 ppm

· PAC-2:

CAS: 7646-85-7	Zinc Chloride	800 mg/m ³
CAS: 7681-11-0	Potassium Iodide	100 mg/m ³
CAS: 7553-56-2	Iodine *DEA regulated item	0.5 ppm

· PAC-3:

CAS: 7646-85-7	Zinc Chloride	4,800 mg/m ³
CAS: 7681-11-0	Potassium Iodide	620 mg/m ³
CAS: 7553-56-2	Iodine *DEA regulated item	5 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 respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**

· Storage:

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep receptacle tightly sealed.

· **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: 7646-85-7 Zinc Chloride

PEL Long-term value: 1 mg/m³
Fume

REL Short-term value: 2 mg/m³
Long-term value: 1 mg/m³

STEL Short-term value: 2 mg/m³

TLV Short-term value: 2 mg/m³
Long-term value: 1 mg/m³
fume

TWA Short-term value: 1 mg/m³

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/14/2024

Reviewed on 06/14/2024

Trade name: Schulze's Solution
(Chlor-Zinc-Iodide) for Cellulose

(Contd. of page 4)

CAS: 7681-11-0 Potassium Iodide

TLV Long-term value: 0.01 ppm
 A4; Skin; *inhalation

CAS: 7553-56-2 Iodine *DEA regulated item

PEL Ceiling limit value: 1 mg/m³, 0.1 ppm
 REL Ceiling limit value: 1 mg/m³, 0.1 ppm
 TLV Long-term value: 0.01** mg/m³, 0.001* ppm
 Skin, A4, *inh. fraction/vapor; **Inhalable

· **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.
 Store protective clothing separately.
 Avoid contact with the eyes.
 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

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 06/14/2024

Reviewed on 06/14/2024

Trade name: Schulze's Solution
(Chlor-Zinc-Iodide) for Cellulose

(Contd. of page 5)

9 Physical and chemical properties

· Information on basic physical and chemical properties	
· General Information	
· Appearance:	
· Form:	Liquid
· Color:	Light brown
· Odor:	Odorless
· Odor threshold:	Not determined.
· pH-value: Not determined.	
· Change in condition	
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	100 °C (212 °F)
· Flash point: Not applicable.	
· Flammability (solid, gaseous): Not applicable.	
· Decomposition temperature: Not determined.	
· Ignition temperature: Product is not selfigniting.	
· Danger of explosion: Product does not present an explosion hazard.	
· Explosion limits:	
· Lower:	Not determined.
· Upper:	Not determined.
· Vapor pressure at 20 °C (68 °F): 23 hPa (17.3 mm Hg)	
· Density at 20 °C (68 °F): 1.8447 g/cm ³ (15.39402 lbs/gal)	
· Relative density Not determined.	
· Vapor density Not determined.	
· Evaporation rate Not determined.	
· Solubility in / Miscibility with	
· Water:	Fully miscible.
· Partition coefficient (n-octanol/water): Not determined.	
· Viscosity:	
· Dynamic:	Not determined.
· Kinematic:	Not determined.
· Solvent content:	
· Water:	57.0 %
· VOC content:	0.00 %
	0.0 g/l / 0.00 lb/gal
· Solids content: 43.0 %	
· Other information 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.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/14/2024

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(Contd. of page 6)

- **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	860 mg/kg
Dermal	LD50	110,000 mg/kg
Inhalative	LC50/4h	150 mg/l

- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:**

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

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

None of the ingredients is listed.

- **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 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/14/2024

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Trade name: Schulze's Solution
(Chlor-Zinc-Iodide) for Cellulose




(Contd. of page 7)

- *Danger to drinking water if even extremely 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.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**
- **DOT, IMDG, IATA** UN1760
- **UN proper shipping name**
- **DOT** *Corrosive liquids, n.o.s. (Zinc Chloride)*
- **IMDG, IATA** *CORROSIVE LIQUID, N.O.S. (Zinc Chloride)*
- **Transport hazard class(es)**
- **DOT**
- 
- **Class** 8 Corrosive substances
- **Label** 8
- **IMDG**
- 
- **Class** 70
- **Label** 8
- **IATA**
- 
- **Class** 70
- **Label** 8

(Contd. on page 9)

US

Safety Data Sheet

acc. to OSHA HCS

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Trade name: Schulze's Solution
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(Contd. of page 8)

· Packing group · IMDG, IATA	III
· Environmental hazards: · Marine pollutant:	Symbol (fish and tree)
· Special precautions for user · EMS Number:	Not applicable. F-A,S-B
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	UN 1760 CORROSIVE LIQUID, N.O.S. (ZINC CHLORIDE), 8, III

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: 7646-85-7 | Zinc Chloride

· **TSCA (Toxic Substances Control Act):**

Water	ACTIVE
Zinc Chloride	ACTIVE
Potassium Iodide	ACTIVE
Iodine *DEA regulated item	ACTIVE

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **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:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

CAS: 7553-56-2 | Iodine *DEA regulated item A4

(Contd. on page 10)

Safety Data Sheet

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Trade name: Schulze's Solution
(Chlor-Zinc-Iodide) for Cellulose

(Contd. of page 9)

· **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**



GHS05 GHS07 GHS08

· **Signal word** *Danger*

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

Zinc Chloride

Potassium Iodide

Iodine *DEA regulated item

· **Hazard statements**

Harmful if swallowed.

Causes severe skin burns and eye damage.

May cause respiratory irritation.

Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

Do not breathe dusts or mists.

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.

If swallowed: Call a poison center/doctor if you feel unwell.

If swallowed: Rinse mouth. 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.

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/doctor.

Specific treatment (see on this label).

Get medical advice/attention if you feel unwell.

Wash contaminated clothing before reuse.

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

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

(Contd. on page 11)

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/14/2024

Reviewed on 06/14/2024

**Trade name: Schulze's Solution
(Chlor-Zinc-Iodide) for Cellulose**

(Contd. of page 10)

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)

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

Acute Toxicity - Oral 4: Acute toxicity – Category 4

Skin Corrosion 1B: Skin corrosion/irritation – Category 1B

Eye Damage 1: Serious eye damage/eye irritation – Category 1

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

Specific Target Organ Toxicity - Repeated Exposure 1: Specific target organ toxicity (repeated exposure) – Category 1

· * Data compared to the previous version altered.

US