

<b>SAFETY DATA SHEET</b> <b>Universal Bacteria Specialist</b> <b>Ingredients:</b> Hypochlorous acid 0.105%, sodium chloride, water	<b>Prepared:</b> February 1, 2016 <b>Preparer:</b> KRK Consulting, LLC 5807 Churchill Way, Medina, Oh 44256
------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------

**1. IDENTIFICATION OF CHEMICAL MATERIAL PREPARATION AND SUPPLIER**

**Name of chemical material, preparation:** Charged Solutions

**Other names (synonyms):** Envirolyte

**Recommended Use:** biocide: disinfectant (EPA Reg. #87636-2) for use on hard surfaces as well as biocide in oil and gas industry, disinfectant of food, and disinfectant of potable water. Prepared by means of diaphragmatic electrolysis from aqueous 10 – 30% sodium chloride (table salt) solution.

**Supplier:** Universal Bacteria Specialist, Inc  
 4709 HWY 36 S, #10  
 Rosenberg, Texas 77471  
 832.847.4481

**IN CASE OF EMERGENCY CONTACT 832-847-4481**

**2. HAZARDS IDENTIFICATION**

**GHS Label Elements**



**Warning**

**Precautionary Statements:**

R22 Harmful if swallowed

**Hazards connected with possibility of fire or explosion:** no

**Hazards for health of people, results of possible effect:** can irritate eyes. In case of eye contact, eyes can get red, they can tingle. In case of skin contact the affected skin can become sensitive or injured irritation, skin can become red. It can cause slight health disorders when inhaled or ingested.

Not classified as hazardous for environment disinfectant use.

**3. COMPOSITION OF CHEMICAL MATERIAL PREPARATION**

**Chemical Identity:**

Empirical (molecular) formula **HClO** Molecular mass: 52.5

CAS No.	EINECS No.	Chemical name	Concentration (%) product mass	Symbols of hazardousness	Phrase of risk
7790-92-3	232-0.0-5	Hypochlorous Acid	<0.105%>	no	no
7681-52-9	231-668-3	Hypochlorite ion	99.895%	no	no
Other mixed oxidants		Ozone chloric acid, chlorous acid	Total <100.000%	no	no

#### 4. FIRST AID MEASURES

##### Routes of Exposure:

**Inhalation:** in case of inhalation, take the injured into the fresh air. If dizziness persists or symptoms of respiratory tract occur, immediately contact doctor.

**Skin contact:** in case of skin contact, wash with water and soap.

**Eyes contact:** in case of eye contact, immediately wash with water. If irritation persists, contact doctor.

**Ingestion:** rinse mouth with water, drink water.

**Measures that can be taken only by doctor:** effect can be considered as slight intoxication with chlorine.

**In case of suspicions of intoxication with this material, contact immediately the nearest first aid, local poison control center or local Emergency room.**

#### 5. FIRE FIGHTING MEASURES

**Suitable fire extinguishing measures:** the preparation is non flammable; fire extinguishing measures have to be chosen according to the properties of other materials existing in the fire focus. When affected by temperature a small quantity of chlorine segregates.

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions and protective equipment:** when washing it is recommended to ventilate the room, wear waterproof gloves. Do not inhale vapor - when washing do not bend towards the spilled preparation.

**Environmental precautions:** not necessary (unless restricted by local laws)

**Methods and materials for containment:** clean and gather the spilled preparation with any absorbing material. Additional decontamination ways are not necessary as anolyte decomposes and neutralized itself during a short time.

#### 7. HANDLING AND STORAGE

**Precautions for safe handling:** handle in accordance with the requirements of handling instructions.

**Conditions for safe storage:** store in tightly closed, light resistant containers, in darkness and as cool as possible, but not below + 5°C.

**Incompatible chemical material for storing together:** cannot be stored with acids, bases, or organics.

#### 8. EXPOSURE CONTROLS

**Limit value of component of chemical material, preparation in the air of working environment (HNv23:2001 indicated data):**

Chemical material		Limit value of concentration						Exposure Marking*
		Long-term exposure limit value (LTELV)		Short-term exposure limit value (STELV)		Threshold limit value (TLV)		
Name	CAS No.	Mg/m <sup>3</sup>	ppm	Mg/m <sup>3</sup>	ppm	Mg/m <sup>3</sup>	ppm	
Chlorine	7782-50-5	1.5	0.5	-	-	3	1	A accute

**Appropriate engineering controls:** good ventilation of premises

**Individual protection measures:**

**Respiratory tract protection measures:** under normal use are not necessary.

**Hand and skin protection measures:** nitrile gloves.

**Eyes protection measures:** safety glasses with side guards or goggles.

**Other skin protection measures (coveralls, footwear, etc.):** no special requirements.

Observe requirements of personal hygiene. Wash hands with soap after work.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Aggregate state (solid, liquid, gaseous) - liquid.**

**Appearance (color, odor) - transparent, colorless, aqueous solution with slight chlorine odor.**

**Value of hydrogen ion concentration, pH: 5.5 - 8.5**

**Boiling temperature range, C: 100.**

**Flammability - non-flammable.**

**Self lighting temperature, C: not applicable.**

**Burst temperature: not applicable.**

**Explosion limits: not applicable.**

**Oxidation properties - strong oxidizer**

**Freezing/fusion temperature, C: 0.**

**Vapor pressure, kPa - not applicable.**

**Specific mass, density g/cm<sup>3</sup>: 1**

**Solubility: unlimited mixing with water.**

**Distribution rate (n-octanol / water) -not applicable**

**Viscosity — like water.**

**Vapor density - like water.**

**Evaporation rate - like water.**

## **10. STABILITY AND REACTIVITY**

**Chemical stability and hazardous chemical reactions:** constantly resolves emitting chlorine.

Decay velocity depends on temperature, concentration, light effect, pH, microbiological and organic contamination of environment. Neutralizes by itself. Unstable, but decay time is enough to make disinfecting effect.

**Conditions to avoid:** heat, light. Do not mix with other materials and preparations except clean water.

**Decay products:** free chlorine, atomic oxygen.

**Necessity for stabilizers - no.**

**Exothermal reaction possibility - no.**

**Unstable decay products -** hypochlorite acid, free chlorine, atomic oxygen.

## **11. TOXICOLOGICAL INFORMATION**

**Acute toxicity on animals:**

**Indigestion, LD50:** tests with rats have established that even concentrated, 0.100%, Anolyte solutions do not cause death.

**Inhalation, LC50:** not established.

**Through skin, LD50:** not established.

**Irritation:** tests with rats guinea-pigs have established that long-term skin contact of concentrated, 0.100% Anolyte ANK solutions can cause dermatitis.

**Other effects on animals:** tests have established that lethal to animals can be only concentrated 0.100% Anolyte ANK solution injections, however lethal effects could not be achieved even after prolonged use of such concentration solutions.

**Effects on human:**

**Inhalation** - in case of correct use of Anolyte real danger does not exist. However, when mixing concentrated solutions with acids or acidic preparations, bigger quantity of chlorine can be emitted. Chlorine vapor has a pickling effect. Burning sense can occur, difficult and more rapid breathing, headache, dizziness, soar can tingle. After some time, symptoms similar to asthma can occur. Long-term effect causes lung oedema..

**Eyes contact** - possible tingle, eye redness.

**Skin contact** - 0.100% anolyte can cause skin irritation, redness if skin is sensitive. Tests with animals have established that long -term repeated effect can cause dermatitis.

**Ingestion** — exact data does not exist.

**Sensibilization** - tests with guinea-pigs have established that even long-term contact does not cause allergy.

**Carcinogenicity, mutagenicity, toxicity to reproduction** - during tests with animals these effects have not been established. It is not harmful, non-toxic, not carcinogenic to warm-blooded organisms and animals.

## **12. ECOLOGICAL INFORMATION**

**Chemical material, preparation properties with possible effect for environment:** hazardous for pathogenic organisms, viruses, and mildew fungi as a disinfectant.

**Ecotoxicity (toxicity for water, soil organisms, other animals and plants) -** lethal concentrations:

- for fish: not established;

- daphnias: tests have established that concentrated anolyte solutions attenuated in ratio 1: \*500 are not hazardous for daphnias;

**Mobility:** rapidly dissolves and resolves in water, dissipates.

**Dissipation and decay (biodegradation) in environment:** when getting into environment concentration of active chlorine decreases depending on water pH, microbiological, organic contamination, materials dissolved in it. The higher environment contamination, the quicker anolyte decays and neutralizes.

**Bioaccumulation:** no

**Data on other effects:** no

## **13. DISPOSAL CONSIDERATIONS**

**Requirement not to dispose waste into environment:** not applied.

**Chemical material, preparation waste, contaminated packaging disposal ways:** remainders can be disposed of as local laws permit for a non hazardous material. It neutralizes itself resolving into water and sodium chloride.

#### **14. TRANSPORT INFORMATION**

Preparation in tightly closed packages can be transported as permitted by DOT for a non-regulated, non-hazardous material.

##### **Information indicated on the label of chemical material, preparation package (tare):**

Not worn away label has to be stuck on the package meant for keeping the preparation which has to contain the following information as minimum:

**Charged Solutions.** *Disinfecting solution. Active materials: Hypochlorous Acid. Use in accordance with the requirements indicated in the instruction*

Additionally a possibility to mark its production date and concentration of active chlorine after production has to be foreseen.

**Hazard symbols:** not hazardous.

**Risk phrases:** not hazardous.

**Safety phrases:** (S2) Keep out of reach of children

#### **15. REGULATORY INFORMATION**

Not listed

#### **16. OTHER INFORMATION**

List of hazard symbols, R phrases and digital signs according to sections 2 and 3.

C	Corrosive
N	Environmental hazard
R34	Causes burns
R50	Very toxic to aquatic organisms

*Data provided in this safety data sheet has to be accessible to everyone whose work is connected with the chemical material, preparation. Data corresponds our possessed knowledge and is meant to describe chemical material, aspects of occupational safety and health, environment protection. Information of safety data sheet will be replenished when new data on effects of chemical material, preparation on health and environment, on preventive measures to reduce hazards or totally avoid them originates. Information provided in the safety data sheet does not reveal other specific properties of chemical material, preparation*