

Neutral Electrolyzed Water, 100 - 200 PPM Sodium Hypochlorite Solution

Safety Data Sheet

The Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), revised in 2012

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SECTION 1: Identification

1.1. Details of the supplier of the data sheet

D&D Eletronics Co., Ltd
207 Megavalley, 268 Hagui-Ro, Dongan-Gu, Anyang City, Gyeonggi-Do, South Korea
Website www.naoclean.com
E-mail dndele@dndele.com

1.2. Product common name: "NaOClean" disinfectant, Neutral electrolyzed water (NEW)

1.3. Product identifier

Product form	Electrolyzed water solution containing 0.01~0.02% NaOCl (100 - 200 PPM)
Product name	Electrolyzed water disinfectant, Neutral Electrolyzed Water (NEW)
CAS No	7681-52-9 This code is for concentrated NaOCl. No CAS number has been established for 100 - 200 PPM NaOCl produced via electrolysis
Chemical formula	NaOCl or NaClO (It is 99.7 ~ 99.8 % water with NaOCl 100 ~ 200 ppm only)
KEGG	D01711 (This code is for NaOCl but it only 0.010~ 0.020% in the water)
RTECS No	NH3486300 (This code is for NaOCl but it only 0.010~ 0.020% in the water)

1.4. Relevant identified uses of the substance or mixture and uses advised against

Use of the product	Disinfecting food contact surfaces, hand washing, topical wash
	Not to be used as potable drinking water

1.5. Emergency telephone number

Emergency contact number	CHEMTREC: 1-800-424-9300 or 011-703-527-3887
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SECTION 2: Hazards identification

2.1. Classification

Physical appearance	Colorless liquid
Immediate Concerns	No hazard expected under normal conditions of use
Dangerous components	None
Danger symbol	None
Flammability	Not flammable
Flash Point (°C)	Not applicable
Extinguishing media	Not applicable
Special fire-fighting procedures	None required

2.2. Label elements

Hazard pictograms (GHS-US)	Not Applicable
Signal word (GHS-US)	Disinfectant / Sanitizer
Hazard statements (GHS-US)	5 - Minimal
Precautionary statements (GHS-US)	H303 – No report H305 – No report H317 – No report H318 – No report P314 - Get medical advice / attention if feel unwell P313, 332 - If skin or eye irritation occurs: Get medical advice/attention P410 - Protect from sunlight

2.3. Other hazards

Other hazards not contributing to the classification	None
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Neutral Electrolyzed Water, 100 - 200 PPM Sodium Hypochlorite Solution

Safety Data Sheet

The Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), revised in 2012

2.4. Unknown acute toxicity

No Applicable information found.

SECTION 3: Composition / information on Ingredients

Name	Product identifier	%	Classification (GHS-US)
100 - 200 PPM Sodium hypochlorite solution with 99.8% plain water	(CAS No) 7681-52-9 for NaOCl only	0.010~0.020	Not classified

3.1. Composition

	CAS-No	EINECS-No	Vol %	
Sodium hypochlorite	7681-52-9	231-668-3	<100~200ppm (0.01~0.02%)	(NaOCl)
Sodium Chloride	7647-14-5	231-598-3	0. 2%~0.3%	(NaCl)
Water	7732-18-5	215-185-5	99.7%~99.8%	(H ₂ O)

SECTION 4: First-Aid Measures

First-aid measures general	This product has been extensively tested but not recommend for drinking water
First-aid measures after inhalation	Non irritating when the product is applied in normal condition
First-aid measures after skin contact	Non irritating when the product is applied in normal condition
First-aid measures after eye contact	If irritation occurs get medical advice/attention.
First-aid measures after ingestion	Rinse mouth, get medical advice/attention if feel unwell.
Sign & Symptoms of poisoning	Diarrhea, Stomach cramps, Nausea, get medical advice
Cut or gash contact	Rinse with clean water
Occupational exposure limits	None
Health hazards	There are no known health hazards from normal exposure
Emergency antidote	None, no hazard expected under normal conditions of use
Dangerous components of the product	Identification: None Danger Symbol : None

4.2. Most important symptoms and effects, both acute and delayed

Symptoms / injuries after skin contact	No applicable information
Symptoms / injuries after eye contact	No applicable information

4.3. Indication of any immediate medical attention and special treatment needed

There are no special requirements for treatment.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	This product does not burn
Unsuitable extinguishing media	Not applicable.
Hazardous combustion	None. Not applicable.
Hazards escape	General: Evacuate personnel upwind of the fire to avoid any risk

5.2. Special hazards arising from the substance or mixture

No known hazards, No applicable information found.

Neutral Electrolyzed Water, 100 - 200 PPM Sodium Hypochlorite Solution

Safety Data Sheet

The Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), revised in 2012

5.3. Advice for firefighters

Firefighting instructions	None
Protection during firefighting	No known hazard
Flammability	Not flammable
Fire-fighting procedures	No special procedures required

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No known hazard exists with accidental release

6.1.1. For non-emergency personnel

Protective equipment	None
Acute toxicity	Non-toxic
Emergency procedures	None

6.1.2. For emergency responders

Protective equipment	None
Emergency procedures	None
Evacuation procedures	None required

6.1.3. Clean-up procedures

Spills	Wipe up with disposable towels or tissues to prevent potential slick surfaces. Flush down drain with copious amount of water where applicable
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SECTION 7: Handling and Storage

7.1. Safe Handling Procedures

Precautions for safe handling	None required. Rinse with tap water if desired.
Hygiene measures	None required. Rinse with tap water if desired.

7.2. Conditions for safe storage, including any incompatibilities

Storage containers	Avoid long term storage in steel / iron uncoated tanks due to potential corrosion
Storage conditions	Store in cool and dark space in sealed container. Protect from the sunlight
Incompatible products & materials	As a general precaution, avoid mixing with strong acids, reducing agents, or ammonium containing compounds.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

100 / 200 PPM Sodium Hypochlorite Solution	
ACGIH	Not applicable
OSHA	Not applicable

Neutral Electrolyzed Water, 100 - 200 PPM Sodium Hypochlorite Solution

Safety Data Sheet

The Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), revised in 2012

Water(7732-18-5)	
ACGIH	Not applicable
OSHA	Not applicable

8.2. Exposure controls

Appropriate engineering controls	None. Use under same condition as potable water
Personal protective equipment	None required when used as directed
Hand protection	None required when used as directed
Eye protection	None needed when used as directed
Skin and body protection	None required when used as directed
Respiratory protection	Wear dust mask if misting or fogging and particle size under 70 micron. Otherwise, none required when used as directed

SECTION 9: Physical and chemical properties

Physical state	Liquid
Appearance	Homogeneous Clear
Color	Colorless
Odor	Mild Chlorine-like
Odor threshold	0.3 ppm.
pH	Neutral, 7.0 ± 0.5
Melting point	Not applicable
Freezing point	32°F / 0°C
Boiling point	212°F / 100°C
Flash point	Not applicable
Relative evaporation rate (butyl acetate=1)	No data available
Flammability (solid, gas)	Not flammable
Explosion limits	No data available
Explosive	None
Density	1.07~ 1.14 g/cm ³ liquid only for the NaOCl
Steam-pressure	Approx 2,330 Pa
Sp Gravity	1.02-1.06 g/ml
Mole Mass	74.44 g/mol
Solubility into water	Absolutely soluble 29.3g/100ml, 0°C
Taste	No taste, like the tap water with mild chlorine smell
Concentration in water	100 ~ 200 ppm FAC (0.01~ 0.02%)
ORP	650 ~ 1,000mV, Typical
Fire-focus	Not inflammable
Store period	About three months stored in cool space without sunlight and in a sealed container
Oxidizing properties	Oxidation potential 1.36eV.
Vapor pressure	17.5 mm Hg @ 20 C
Log Pow	No data available
Log Kow	No data available
Auto-ignition temperature	No data available
Decomposition temperature	101°C - for the NaOCl only
Viscosity	1
Viscosity, kinematic	1
Viscosity, dynamic	1

SECTION 10: Stability and Reactivity

Stability	Stable under all normal usage and storage conditions
Materials to avoid	Avoid strong acid, reducing agents
Hazardous decomposition products	None
Reactivity	No additional information available

Neutral Electrolyzed Water, 100 - 200 PPM Sodium Hypochlorite Solution

Safety Data Sheet

The Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), revised in 2012

Chemical stability	Stable under normal conditions
Possibility of hazardous reactions	May react if it mixed with strong acids and reducing agents
Conditions to avoid	Direct sun light. Extremely high or low temperatures
Incompatible material	Strong acids, reducing agents, or ammonium containing compounds.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure	Ingestion, Skin and eye contact
Acute toxicity	None

Skin corrosion/irritation	None
Serious eye damage/irritation	None
Respiratory or skin sensitization	No reference
Germ cell mutagenicity	No reference
Carcinogenicity	Not classified, No reference because it is very different from chemical NaOCl

100 ~ 200 PPM Sodium Hypochlorite	
IARC group	4 -Probably not carcinogenic to humans

Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified
Aspiration hazard	Not classified
Potential Adverse human health effects and symptoms	Based on available data, the classification criteria are not met.
Symptoms/injuries after skin contact	None,
Symptoms/injuries after eye contact	None

SECTION 12: Ecological information

12.1. Toxicity

Eco toxicity	Destroys bacteria, Spores, Viruses, and mold, algae.
Degradability and Persistence	Fully biodegradable
Bioaccumulation	None
Mobility	None
Hazards	None
Other effects	Destroys biofilm
Ecology - water	None

100 ~ 200 PPM Sodium Hypochlorite	
LC50 fish 1	Not classified, No data available
EC50 Daphnia 1	Not classified, No data available
EC50 other aquatic organisms 1	Not classified, No Data available
LC50 fish 2	Not classified, No data available
Threshold limit algae 1	Not classified, No data available

12.2. Persistence and degradability

100 ~ 200 PPM Sodium Hypochlorite Solution	
Persistence and degradability	Not established.

Neutral Electrolyzed Water, 100 - 200 PPM Sodium Hypochlorite Solution

Safety Data Sheet

The Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), revised in 2012

100 ~ 200 PPM Sodium Hypochlorite Solution	
Persistence and degradability	Bio degradable, Disassociates to salt and water
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bio accumulative potential

100 ~ 200 PPM Sodium Hypochlorite Solution	
Bio accumulative potential	Not bio accumulative.

12.4. Mobility in soil

No information available, disassociates into water and salt

12.5. Other adverse effects

Effect on the global warming	No known ecological damage caused by this product.
Other information	None

SECTION 13: Disposal procedures

13.1. Waste treatment methods

Waste disposal recommendations	Dispose in a safe manner in accordance with local, state, and national regulations. Dispose of contents/container to comply with local, state and federal regulations
Ecology - waste materials regulations	No known effects

SECTION 14: Transport procedures

Department of Transportation (DOT)

In accordance with DOT, Not a regulated material

Additional information

Other information	No supplementary information available
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ADR

No additional information available

Transport by sea

No additional information available

Air transport

Not classified as a hazardous material. No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

100 ~200 PPM Sodium Hypochlorite Solution	
Not listed on the United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	No data available

Neutral Electrolyzed Water, 100 - 200 PPM Sodium Hypochlorite Solution

Safety Data Sheet

The Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), revised in 2012

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory. This product does not contain a toxic chemical or chemicals in excess of the applicable minimal concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

100 ~ 200 PPM Sodium Hypochlorite Solution	
Not listed on the United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	No data available, Not reportable
SARA Section 311/312 Hazard Classes	None

15.2. International regulations

CANADA

100 ~ 200 PPM Sodium Hypochlorite Solution	
WHMIS Classification	No data available

100 ~ 200 PPM Sodium Hypochlorite Solution	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Not classifiable

Water (7732-18-5)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

No additional information available

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

No data available

Full text of R-phrases: see section 16

National regulations

100 ~ 200 PPM Sodium Hypochlorite Solution	
Listed on the Canadian IDL (Ingredient Disclosure List)	

Water (7732-18-5)	
Not listed on the Canadian IDL (Ingredient Disclosure List)	

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer and /or reproductive harm

SECTION 16: Medical Advice

This product has been extensively tested in both humans and animals. It can be used for the bacteria and virus control without any harmful materials and secondary pollution.

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Safety Data Sheet

The Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), revised in 2012

SECTION 17: Other Information

Neutral Electrolyzed Water (NEW) is made by passing an electric current through a solution of water and a small amount of salt (approx. 0.2~ 0.3 %) in a process known as electrolysis. NEW is composed of NaOCl generated in the water electrochemically. The NaOClean system can only produce low concentrations of NaOCl (100~ 200ppm) water. At this concentration, NaOCl is "Generally Recognized as Safe" (GRAS) by the FDA for food contact surfaces & sanitizing rinse for approved food. Therefore the information presented within this Safety Data Sheet was written based upon our general knowledge and it is intended to describe the product for the purpose of health and safety requirements only.

Other information

NFPA Rating	
NFPA health hazard	0 - No unusual hazard
NFPA fire hazard	0 - Materials that will not burn.
NFPA reactivity	0 - Normally stable
NFPA Specific Hazard	None



HMIS Rating	
Health	0 - None or minimal
Flammability	0 - Minimal Hazard - Materials that will not burn
Physical	0 - None or minimal
Personal Protection	A - Splash goggles

SDS US (GHS HazCom 2012)

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