



DC Chemical Industries

Material Safety Data Sheet

MSDS

Sodium Chlorite 25% (NaClO₂)

Section 1 – Chemical Product and Company Identification

SUBSTANCE : Sodium Chlorite 25%

TRADE NAMES/SYNONYMS : Sodium Chlorite 25%

SYNONYMS : Sodium Chlorite Solution; Chlorous Acid, Sodium Salt 25%

CHEMICAL FAMILY: inorganic, salts

MANUFACTURER

Company : DC Chemical Co.Ltd.

Address : 595 Hakik-dong, Nam-gu, Incheon, KOREA

Tel: 82-32-860-6231

Section 2 – Composition, Information on Ingredients

COMPONENT : Sodium Chlorite

CAS No.: 7758-19-2

EC NUMBER (EINECS) : 231-836-6

PERCENTAGE: 25

COMPONENT : Water

CAS No.: 7732-18-5

EC NUMBER (EINECS) : 231-791-2

PERCENTAGE : 75

Section 3 – Hazards Identification

NFPA RATINGS (SCALE 0-4): HEALTH=3 FIRE=0 REACTIVITY=1

HMIS RATINGS (SCALE 0-4): HEALTH=3 FLAMMABILITY=0 REACTIVITY=1

EMERGENCY OVERVIEW:

COLOR: pale, yellow

PHYSICAL FORM: liquid

ODOR: slight chlorine odor

SIGNAL WORD: DANGER

MAJOR HEALTH HAZARDS: Corrosive. Harmful or fatal if swallowed. May cause permanent eye damage.
Causes burns to the respiratory tract, skin, eyes and gastrointestinal tract.

PHYSICAL HAZARDS: Dried material can ignite upon contact with combustibles.

PRECAUTIONARY STATEMENTS: Do not breathe vapor or spray mist. Do not taste or swallow. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Wash thoroughly after handling. Use only with adequate ventilation.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation (possibly severe), burns, difficulty breathing, headache, dizziness, pulmonary edema

LONG TERM EXPOSURE: to our knowledge, no effects are known

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation (possibly severe), may cause burns

LONG TERM EXPOSURE: dermatitis

EYE CONTACT:

SHORT TERM EXPOSURE: irritation (possibly severe), may cause burns, blurred vision, may cause blindness

LONG TERM EXPOSURE: to our knowledge, no effects are known

INGESTION:

SHORT TERM EXPOSURE: harmful or fatal if swallowed, irritation (possibly severe), burns

LONG TERM EXPOSURE: blood disorders, kidney damage, reproductive effects

Section 4 – First Aid Measures

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. If respiration or pulse has stopped, have a trained person administer Basic Life Support (Cardio-Pulmonary Resuscitation/Automatic External Defibrillator) and call for emergency services immediately.

SKIN CONTACT: Immediately flush contaminated areas with water. Remove contaminated clothing, jewelry, and shoes immediately. Wash contaminated areas with soap and water. Thoroughly clean and dry contaminated clothing before reuse. Discard contaminated leather goods. If irritation occurs, get medical attention.

EYE CONTACT: Immediately flush eyes with a directed stream of water for at least 15 minutes, forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissues. Washing eyes within several seconds is essential to achieve maximum effectiveness. Get medical attention immediately.

INGESTION: Never give anything by mouth to an unconscious or convulsive person. If swallowed, do not induce vomiting. Give water. If vomiting occurs spontaneously, keep airway clear. Give more water when vomiting stops. Get medical attention immediately.

NOTE TO PHYSICIAN: Chlorine dioxide vapors are emitted when this product contacts acids or chlorine.

If these vapors are inhaled, monitor patient closely for delayed development of pulmonary edema which may occur up to 48-72 hours post-inhalation. Following ingestion, neutralization and use of activated charcoal is not indicated.

Section 5 – Fire Fighting Measures

FIRE AND EXPLOSION HAZARDS: Negligible fire hazard. Avoid evaporation to dryness. Dried material can ignite upon contact with combustibles. This product may represent an explosion hazard if it contacts acids, chlorine or organic materials (Refer to Section 10).

EXTINGUISHING MEDIA: Use extinguishing agents appropriate for surrounding fire.

FIRE FIGHTING: Wear NIOSH approved positive-pressure self-contained breathing apparatus. Consider evacuation of personnel located downwind. Keep unnecessary people away, isolate hazard area and deny entry. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Flood with fine water spray. Avoid inhalation of material or combustion byproducts. Stay upwind and keep out of low areas.

SENSITIVITY TO MECHANICAL IMPACT: Not sensitive

SENSITIVITY TO STATIC DISCHARGE: Not sensitive

FLASH POINT: Not applicable

HAZARDOUS COMBUSTION PRODUCTS:

Thermal decomposition products or combustion: chlorine, oxides of sodium

Section 6 – Accidental Release Measures

OCCUPATIONAL RELEASE:

Keep unnecessary people away, isolate hazard area and deny entry. Contain spill. Spill materials may be absorbed using nonflammable commercial absorbents. Dampen and scoop spilled material into clean, dedicated equipment. Every attempt should be made to avoid mixing spilled material with other chemicals or debris when cleaning up. Keep collected material damp and put into drums. Dispose promptly. Dried material can ignite upon contact with combustibles. Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.

Section 7 – Handling and Storage

STORAGE: Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Store in a cool, dry place. Store in a well-ventilated area. Store below 212 F (100 C). Avoid exposure to sunlight or ultraviolet light. Keep separated from incompatible substances.

HANDLING: Do not taste or swallow. Do not get in eyes, on skin, or on clothing. Avoid breathing vapors or mist when opening container. Avoid creation of vapor or mist. Wash thoroughly after handling.

Use clean utensils. Do not add the product to any dispensing device containing residuals of other products. Contamination may start a chemical reaction with generation of heat, liberation of hazardous gases (chlorine dioxide a poisonous, explosive gas), and possible fire and explosion. Do not contaminate with acids, reducing agents, combustible materials, oxidizing materials, hypochlorite, organic solvents and compounds, garbage, dirt, organic matter, household products, chemicals, soap products, paint products, vinegar, beverages, oils, pine oil, dirty rags, sulfur-containing rubber, or any other foreign matter. Dried material can ignite upon contact with combustibles.

Section 8 – Exposure Controls, Personal Protection

EXPOSURE LIMITS:

No occupational exposure limits established.

VENTILATION: Use only in well ventilated areas. Provide local exhaust ventilation where vapors, mist or aerosols may be generated.

EYE PROTECTION: Wear chemical safety goggles with a faceshield to protect against skin and eye contact when appropriate. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear protective clothing to minimize skin contact. Thoroughly clean and dry contaminated clothing before reuse. Discard contaminated leather goods.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: A NIOSH approved respirator with N95 (dust, fume, mist) filters may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. If chlorine or chlorine dioxide is present, an acid gas cartridge is also required. When an air-purifying respirator is not adequate or during spills and/or emergencies of unknown concentrations, a NIOSH approved self-contained breathing apparatus or airline respirator with full-face piece is required. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

Section 9 – Physical and Chemical Properties

PHYSICAL STATE: liquid

APPEARANCE: slightly cloudy

COLOR: pale, yellow

ODOR: slight chlorine odor

MOLECULAR WEIGHT: 90.45

MOLECULAR FORMULA: NaClO₂

BOILING POINT: Not available

FREEZING POINT: Not available

VAPOR PRESSURE: Not available
VAPOR DENSITY: Not available
SPECIFIC GRAVITY (water=1): Min. 1.205(20/20°C)
WATER SOLUBILITY: soluble
PH: >12 @ 25 C
ODOR THRESHOLD: Not available
EVAPORATION RATE: Not available
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

Section 10 – Stability and Reactivity

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Avoid evaporation to dryness. Dried material can ignite upon contact with combustibles. Avoid contamination with foreign materials. Avoid exposure to sunlight or ultraviolet light.

INCOMPATIBILITIES: acids, reducing agents, combustible materials, oxidizing materials, hypochlorite, organic solvents and compounds, garbage, dirt, organic matter, household products, chemicals, soap products, paint products, vinegar, beverages, oils, pine oil, dirty rags, sulfur-containing rubber, or any other foreign matter

HAZARDOUS DECOMPOSITION:

Decomposition products on contact with acids: chlorine dioxide gas

Thermal decomposition products or combustion: chlorine, oxides of sodium

POLYMERIZATION: Will not polymerize.

Section 11 – Toxicological Information

Acute toxicity

LD50(oral, rat) : 1136mg/Kg(25% solution)

Further toxicological information

Property that must be anticipated on the basis of the components of the preparation :

After inhalation of vapours/aerosols: mucosal irritations, coughing, dyspnoea.

After eye contact: Risk of serious damage to eyes.

After swallowing: Irritations of mucous membranes in the mouth, pharynx, oesophagus and
Gastrointestinal tract.

Further data

Further hazardous properties cannot be excluded.

The product should be handled with the care usual when dealing with chemicals.

Catalogue NO: 814815

Product name: Sodium chlorite(25% solution in water) for synthesis

Section 12 – Ecological Information

ECOTOXICITY DATA:

FISH TOXICITY: 290 mg/l (as 80% NaClO₂) 96 hour(s) LC50 Rainbow Trout; 265–310 mg/l (as 80% NaClO₂) 96 hour(s) LC50 Bluegill; 62–90 ppm 96 hour(s) LC50 Sheepshead minnow

INVERTEBRATE TOXICITY: 0.29 mg/l (as 80% NaClO₂) 48 hour(s) LC50 Daphnia Magna

FATE AND TRANSPORT:

BIODEGRADATION: This material is inorganic and not subject to biodegradation.

PERSISTENCE: This material will eventually degrade to sodium chloride.

BIOCONCENTRATION: This material is believed not to bioaccumulate.

OTHER ECOLOGICAL INFORMATION: 0.49–1.00 g/kg (gavage) (as 80% NaClO₂) LD50 Mallard Ducks; 0.66 g/kg (gavage) (as 80% NaClO₂) LD50 Bobwhite Quail; Sodium chlorite in the diet of birds was not acutely toxic. Eight-day dietary LC50's in mallard ducks and bobwhite quail were both greater than 10,000 ppm in the diet.

Section 13 – Disposal Considerations

Reuse or recycle if possible. Dispose in accordance with all applicable regulations. Do not put product, spilled product, or filled or partially filled containers into the trash or waste compactor. Contact with incompatible materials could cause a reaction and fire. Contact Customer Service to obtain neutralization instructions. Keep out of water supplies and sewers. May be subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D002.

Section 14 – Transport Information

U.S. DOT 49 CFR 172.101:

PROPER SHIPPING NAME: Chlorite solution

ID NUMBER: UN1908

HAZARD CLASS OR DIVISION: 8

PACKING GROUP: II

LABELING REQUIREMENTS: 8

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

SHIPPING NAME: Chlorite solution

UN NUMBER: UN1908

CLASS: 8

PACKING GROUP/RISK GROUP: II

Section 15 – Regulatory Information

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30): Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):

ACUTE: Yes

CHRONIC: Yes

FIRE: No

REACTIVE: No

SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.

OTHER U.S. REGULATIONS: Federal Insecticide, Fungicide and Rodenticide Act (FIFRA): Registered pesticide (40 CFR 152). EPA Reg. No. 5382-43 (Technical Sodium Chlorite Solution 31.25%) EPA Reg. No. 5282-44 (Technical Sodium Chlorite Solution 18.75%) EPA Reg. No. 5382-45 (31% Active Sodium Chlorite)