



Biotrol 12.5

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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Version: 2.1

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Name : Biotrol 12.5

1.2. Recommended use and restrictions on use

Recommended use : Industrial Microbiocide

1.3. Supplier

Kurita America Inc.
6600 94th Ave North
Minneapolis, MN 55445 - USA
T 866-663-7632
kal_sds@kurita-water.com - www.kuritaamerica.com

1.4. Emergency telephone number

Emergency number : CHEMTEL, For Chemical Emergency Call 800-255-3924 24hr/day 7days/week
Kurita America: 866-663-7633 International: +01-813-248-0585

SECTION 2: Hazard(s) Identification

2.1. Classification of the substance or mixture

GHS US classification

Corrosive to metals, Category 1	H290 May be corrosive to metals.
Skin corrosion/irritation, Category 1B	H314 Causes severe skin burns and eye damage.
Serious eye damage/eye irritation, Category 1	H318 Causes serious eye damage.
Specific target organ toxicity – Single exposure, Category 1	H370 Causes damage to organs.

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Danger

Hazard statements (GHS US)

: H290 - May be corrosive to metals.
H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.
H370 - Causes damage to organs.

Precautionary statements (GHS US)

: P234 - Keep only in original container.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P307+P311 - If exposed: Call a poison center/doctor.
P310 - Immediately call a poison center or doctor.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P363 - Wash contaminated clothing before reuse.
P390 - Absorb spillage to prevent material damage.
P405 - Store locked up.
P406 - Store in corrosive resistant container with a resistant inner liner.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Sodium hypochlorite	(CAS-No.) 7681-52-9	12.5	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Sodium Hydroxide	(CAS-No.) 1310-73-2	0.2 - 5	Met. Corr. 1, H290 Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Skin Corr. 1, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : Call a physician immediately.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
- First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after skin contact : Burns.
- Symptoms/effects after eye contact : Serious damage to eyes.
- Symptoms/effects after ingestion : Burns.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

- Fire hazard : Not flammable.
- Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

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6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Do not breathe dust/fume/gas/mist/vapours/spray.
Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.
Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in corrosive resistant container with a resistant inner liner. Keep only in original container.
Store locked up. Store in a well-ventilated place. Keep cool.
Incompatible materials : Metals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

Sodium hypochlorite (7681-52-9)

No additional information available

Sodium Hydroxide (1310-73-2)

USA - ACGIH - Occupational Exposure Limits

Local name	Sodium hydroxide
ACGIH OEL C	2 mg/m ³
Remark (ACGIH)	TLV® Basis: URT, eye, & skin irr
Regulatory reference	ACGIH 2022

USA - OSHA - Occupational Exposure Limits

Local name	Sodium hydroxide
OSHA PEL TWA [1]	2 mg/m ³
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Protective goggles.

Hand protection:

Protective gloves

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of inadequate ventilation wear respiratory protection.

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Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: clear.
Colour	: Light Yellow Green
Odour	: chlorine-like
Odour threshold	: No data available
pH	: > 12
Melting point	: Not applicable
Freezing point	: ~-10 °F
Boiling point	: No data available
Flash point	: None (Pensky Martens Closed Cup)
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 10.01 lb/gal
Solubility	: Miscible with water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
No data availableViscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Protect from sunlight. Above a temperature of 70 Deg F. Product degrades more rapidly with increasing temperature.

10.5. Incompatible materials

Heavy metals. Nickel. Iron. Copper. Cobalt. Acids. Ammonia. Ammonium compounds. Hydrogen peroxide. Alum. Oxidizing agents. Reducing agents. Combustible materials. Wood. Organic materials. Organic solvents. Amines. Methanol. Cleaners. Solvents. Magnesium. Aluminum. Chromium. Carbon steel. Manganese. Steel. Tin. Zinc. Sodium sulfite. Sodium thiosulfate. Bronze. Brass. Reacts with other household chemicals, such as toilet bowl cleaners, pool/hot tub chemicals/materials, peroxides, brick and concrete cleaners. Insecticides, windshield wash, gasoline, greases, oils, fuels, rust removers, vinegar, human and animal waste to.

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produce hazardous gases such as chlorine. Ether, ammonia compounds, cloth, propane, organic polymers, ethylene glycol, sodium bisulfite, sodium hydrosulfite may release hazardous gases. Alcohols. Chlorinated compounds. Cyanides. Hydrocarbons. Metals such as aluminum, zinc, tin, etc. Lead. Other alkali sensitive metals or alloys. Organic nitro compounds. Chlorinated hydrocarbons. Fluorinated hydrocarbons. Acetaldehyde. Chlorine trifluoride. Hydroquinone. Maleic anhydride. Tetrahydrofuran. Acrolein. Phosphorous. Trichloroethylene. Leather. Wool. Phosphorous pentoxide. Halogenated compounds. Glycols. Explosives. Acrylonitrile. 1,2- Dichloroethylene. Tetrachloroethane. Organic peroxides. Sodium tetrahydroborate. Food sugars. Silver nitrate. Chloroform. Zirconium. . metals.

10.6. Hazardous decomposition products

Chlorine-containing gases. Reacts with acids to release poisonous chlorine gas. Sodium oxide. Hypochlorous acid. Oxygen. Hydrogen chloride. Hydrogen gas. Carbon monoxide. Phosphina.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Sodium hypochlorite (7681-52-9)	
LD50 oral rat	1100 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	> 20000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: other:16 CFR 1500.40
ATE US (oral)	1100 mg/kg bodyweight
Sodium Hydroxide (1310-73-2)	
LD50 oral rat	140 – 340 mg/kg Source: ECHA
LD50 dermal rabbit	1350 mg/kg Source: HSDB
ATE US (oral)	140 mg/kg bodyweight
ATE US (dermal)	1350 mg/kg bodyweight

Skin corrosion/irritation : Causes severe skin burns.
pH: > 12
Serious eye damage/irritation : Causes serious eye damage.
pH: > 12
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Sodium hypochlorite (7681-52-9)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified
STOT-single exposure : Causes damage to organs.
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Viscosity, kinematic : No data available
Symptoms/effects after skin contact : Burns.
Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : Burns.

SECTION 12: Ecological information

12.1. Toxicity

Ecology:- general : The presence of organic material in natural waters may interact with this product, resulting in a decrease in its toxic effect. Before neutralisation, the product may represent a danger to aquatic organisms.

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LC50 - Fish [1]	3 mg/l Fathead Minnows, 96 Hr

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Biotrol 12.5	
LC50 - Other aquatic organisms [1]	0.73 mg/l Daphnia magna, 48 Hr
LC50 - Fish [2]	0.66 mg/l Ceriodaphnia dubia, 48 Hr

12.2. Persistence and degradability

Biotrol 12.5	
Persistence and degradability	Material is inorganic.

12.3. Bioaccumulative potential

Biotrol 12.5	
Bioaccumulative potential	Not expected to bioaccumulate.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information	: RCRA: Corrosive, D002.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description (DOT)	: UN1791 Hypochlorite solutions, 8, PG III
UN-No.(DOT)	: UN1791
Proper Shipping Name (DOT)	: Hypochlorite solutions
Class (DOT)	: 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT)	: PG III - Minor Danger
Hazard labels (DOT)	: 8 - Corrosive



Marine pollutant

: Yes (IMDG only)



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241

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DOT-Special Provisions (49 CFR 172.102)	386 - Notwithstanding the provisions of §177.834(l) of this subchapter, cargo heaters may be used when weather conditions are such that the freezing of a wetted explosive material is likely. Shipments must be made by private, leased or contract carrier vehicles under exclusive use of the offeror. Cargo heaters must be reverse refrigeration (heat pump) units. Shipments made in accordance with this Special provision are excepted from the requirements of §173.60(b)(4) of this subchapter. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). N34 - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material. T4 - 2.65-178.274(d)(2) Normal..... 178.275(d)(3) TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively. TP24 - The portable tank may be fitted with a device to prevent the build up of excess pressure due to the slow decomposition of the hazardous material being transported. The device must be in the vapor space when the tank is filled under maximum filling conditions. This device must also prevent an unacceptable amount of leakage of liquid in the case of overturning.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 154
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under-deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
DOT Vessel Stowage Other	: 26 - Stow "away from" acids
Emergency Response Guide (ERG) Number	: 154
Other information	: No supplementary information available.

Transportation of Dangerous Goods

Transport document description (TDG)	: UN1791 HYPOCHLORITE SOLUTION, 8, III
UN-No. (TDG)	: UN1791
Proper Shipping Name (TDG)	: HYPOCHLORITE SOLUTION
TDG Primary Hazard Classes	: 8 - Class 8 - Corrosives
Packing group (TDG)	: III - Minor Danger
Explosive Limit and Limited Quantity Index	: 5 L
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: 5 L

Air transport

	: UN 1791 Hypochlorite solution, 8, III
UN-No. (IATA)	: 1791
Proper Shipping Name (IATA)	: Hypochlorite solution
Class (IATA)	: 8 - Corrosives
Packing group (IATA)	: III - Minor Danger

SECTION 15: Regulatory information

15.1 US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

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This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis 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.

Sodium hypochlorite (7681-52-9)	
CERCLA RQ	100 lb
Sodium Hydroxide (1310-73-2)	
CERCLA RQ	1000 lb

15.2. International regulations

CANADA

Sodium hypochlorite (7681-52-9)	
Listed on the Canadian DSL (Domestic Substances List)	

EU-Regulations

No additional information available

National regulations

Sodium Hydroxide (1310-73-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	

15.3. US State regulations

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

Component	State or local regulations
Sodium hypochlorite(7681-52-9)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Sodium Hydroxide(1310-73-2)	U.S. - Massachusetts - Right To Know List

SECTION 16: Other Information

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Revision date : 05/06/2022

Kurita - SDS US (GHS HazCom 2012)

Author: Kurita Water Industries Ltd.

Revision Notes: Updated to GHS format

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