

SAFETY DATA SHEET



Section 1. Identification

Product identifier : Anthium(TM) Dioxide
Material Number : 57747435
EPA Registration Number: : 9150-2
Identified uses : Biocide
Supplier/Manufacturer : International Dioxide Inc.
40 Whitecap Drive
North Kingstown, RI 02852

For Information: US/Canada (800) LANXESS)
International: +1 412 809 1000

In case of emergency : CHEMTREC (800) 424 9300
International (703) 527 3887
Lanxess Emergency Phone: (800) 410 3063

Section 2. Hazards identification

HAZCOM Standard Status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Physical state : Liquid.

Color : Light yellow

Classification of the substance or mixture : ACUTE TOXICITY (oral) - Category 4
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2B
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (spleen) - Category 2

Hazard pictograms :

Signal word : Warning

Hazard statements : Harmful if swallowed. Causes serious eye irritation. Causes skin irritation. May cause damage to organs through prolonged or repeated exposure. (spleen)

Hazard Not Otherwise Classified (HNOC) : None known.

Precautionary statements

Prevention : Wear protective gloves and eye/face protection. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response : Get medical attention if you feel unwell. IF SWALLOWED: Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Sodium chlorite	≤10	7758-19-2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of first aid measures

- Eye contact** : Check for and remove any contact lenses. Get medical attention. In case of contact, flush eyes with plenty of water for at least 20 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If not breathing, if breathing is irregular or respiratory arrest occurs, provide artificial respiration, or oxygen by a trained professional, using a pocket type respirator.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. In case of contact, flush skin with plenty of water for at least 20 minutes.
- Ingestion** : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation.
- Ingestion** : Harmful if swallowed. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
watering
redness
Causes irritation with symptoms of reddening, tearing, stinging, and swelling.
- Inhalation** : No specific data.
- Skin contact** : Causes irritation with symptoms of reddening, itching, and swelling.
- Ingestion** : Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea.

Potential chronic health effects

May cause damage to organs through prolonged or repeated exposure.

- Notes to physician** : Treat symptomatically. No specific treatment.
- Protection of first-aiders** : No special measures required.

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire. In case of fire, use water spray (fog), foam or dry chemical.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal. Prevent entry into sewers, water courses, basements or confined areas.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Remove contaminated clothing and protective equipment before entering eating areas. Workers should wash hands and face before eating, drinking and smoking. Put on appropriate personal protection equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Section 7. Handling and storage

Conditions for safe storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Exposure limits
Sodium chlorite	None

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. A NIOSH approved air purifying respirator with organic vapor cartridges and particulate prefilter can be used to minimize exposure.

Skin protection : Permeation resistant clothing and foot protection. Permeation resistant gloves.

Eye/face protection : chemical splash goggles.

Medical Surveillance : Not available.

Section 9. Physical and chemical properties

Physical state	: Liquid.
Color	: Light yellow
Odor	: chlorine [Slight]
Odor threshold	: Not available.
pH	: 9 to 9.2
Boiling point	: 105 °C (1013 hPa)
Melting point	: Not available.
Flash point	: Closed cup: >100°C (>212°F)
Evaporation rate	: Not available.
Explosion limits	: Not available.
Vapor pressure	: 19.87 hPa (20°C)
Density	: 1.065 to 1.095 g/cm ³
Specific gravity (Relative density)	: Not available.
Solubility in water	: Easily soluble in the following materials: cold water
Partition coefficient: n-octanol/water	: Not available.

Section 9. Physical and chemical properties

Vapor density	: Not available.
Viscosity	: Dynamic: 3.26 mPa·s
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact	: Causes serious eye irritation.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: Causes skin irritation.
Ingestion	: Harmful if swallowed. Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: Adverse symptoms may include the following: watering redness Causes irritation with symptoms of reddening, tearing, stinging, and swelling.
Inhalation	: No specific data.
Skin contact	: Causes irritation with symptoms of reddening, itching, and swelling.
Ingestion	: Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea.

Potential chronic health effects

Short term exposure

Potential immediate effects : Not available.

Long term exposure

Potential delayed effects	: Not available.
General	: May cause damage to organs through prolonged or repeated exposure.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.

Information on toxicological effects

Acute toxicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure	Test
Anthium(TM) Dioxide	LD50 Oral	Rat	1075 mg/kg	-	-
Anthium(TM) Dioxide	LD50 Dermal	Rat	>2000 mg/kg	-	-
Anthium(TM) Dioxide	LC50 Inhalation Dusts and mists	Rat	>6.53 mg/l	4 hours	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation	Reversibility
Anthium(TM) Dioxide	Skin - Moderate irritant Eyes - Mild irritant	Rabbit Rabbit	- -	- -	- -	- Fully reversible in 7 days or less

Conclusion/Summary

Skin : Moderate irritant
Eyes : mild eye irritation

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Sodium chlorite	skin	Guinea pig	Not sensitizing

Mutagenicity

Conclusion/Summary : Sodium chlorite:Not mutagenic in a standard battery of genetic toxicological tests. Did not show carcinogenic or mutagenic effects in animal experiments.

Carcinogenicity

Conclusion/Summary : Sodium chlorite:No carcinogenic effect.

Product/ingredient name	CAS #	IARC	NTP	OSHA
Sodium chlorite	7758-19-2	Not classified.	Not classified.	Not classified.

Reproductive toxicity

Conclusion/Summary : Sodium chlorite:Not considered to be toxic to the reproductive system.

Teratogenicity

Conclusion/Summary : Sodium chlorite:Teratogenic effects seen only with maternal toxicity

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Anthium(TM) Dioxide	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Sodium chlorite	Category 2	Not determined	spleen

Acute toxicity estimates

Route	ATE value (Acute Toxicity Estimates)
Not available.	

Section 12. Ecological information

Toxicity

Product/ingredient name	Test	Result	Species	Exposure
Sodium chlorite	-	Acute EC50 1 mg/l Fresh water	Algae - Scenedesmus capricornutum	96 hours
	-	Acute EC50 0.65 mg/l Marine water	Crustaceans - Mysidopsis bahia	96 hours
	OECD 202 <i>Daphnia</i> sp. Acute Immobilization Test	Acute EC50 <1 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 106 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Chronic NOEC 0.62 mg/l Fresh water	Algae - Scenedesmus capricornutum	96 hours

Conclusion/Summary : Not available.

Persistence and degradability

Conclusion/Summary : Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Sodium chlorite	<-2.7	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Waste disposal should be in accordance with existing federal state, provincial and or local environmental controls laws.

RCRA classification : : If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	-	-	-	-		Not regulated.
IMDG Class	-	-	-	-		Not regulated.
IATA-DGR Class	-	-	-	-		Not regulated.

Section 14. Transport information

PG* : Packing group

RQ : 0 lbs

Section 15. Regulatory information

SARA 311/312 : Immediate (acute) health hazard

SARA Title III Section 302 : None

Extremely Hazardous Substances

SARA Title III Section 313 : None

Toxic Chemicals

US EPA CERCLA : None

Hazardous Substances (40 CFR 302.4)

State regulations

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections on the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

<u>Ingredient name</u>	<u>CAS number</u>	<u>State Code</u>	<u>Concentration (%)</u>
Sodium chlorite	7758-19-2	MA - S, NJ - HS, PA - RTK HS	≤10
Water	7732-18-5		≥90
Sodium Bicarbonate	144-55-8		≤5

Massachusetts Substances: MA - S

Massachusetts Extraordinary Hazardous Substances: MA - Extra HS

New Jersey Hazardous Substances: NJ - HS

Pennsylvania RTK Hazardous Substances: PA - RTK HS

Pennsylvania Special Hazardous Substances: PA - Special HS

California Prop. 65

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

U.S. Toxic Substances Control Act : This product is excluded from TSCA Regulation under FIFRA Section 3 (2)(B)(ii) when used as a pesticide.

FIFRA

EPA Registration Number : 9150-2

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

Signal word : CAUTION

Hazard statements : Causes moderate eye irritation. Harmful if swallowed or absorbed through skin.

Section 16. Other information

Hazardous Material Information System	Health	*	3
	Flammability		2
	Physical hazards		0

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme
*=Chronic

Section 16. Other information

The customer is responsible for determining the PPE code for this material. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.) :



0= Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

Our method of hazard communication is comprised of Product Labels and Safety Data Sheets. HMIS and NFPA ratings are provided as a customer service.

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Product Safety and Regulatory Affairs

▣ Indicates information that has changed from previously issued version.

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