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Version 4

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name BIO-TEC 25

Other means of identification

Product Code ABC061

UN/ID No. UN1908

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Oxidizing Microbiocide Chlorine Dioxide Precursor.

Uses advised against No information available

Manufacturer Address

Anderson Chemical Company, 325 South Davis Avenue, Litchfield, MN 55355 (320-693-2477)

Emergency telephone number

Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Vapors)	Category 3
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

Emergency Overview

Danger

Hazard statements

Harmful if swallowed

Toxic in contact with skin

Causes severe skin burns and eye damage

Toxic if inhaled

May cause damage to organs through prolonged or repeated exposure



Appearance aqueous solution

Physical state liquid

Odor Slight chlorine

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Wear protective gloves/protective clothing/eye protection/face protection
 Do not breathe dust/fume/gas/mist/vapors/spray
 Use only in well-ventilated areas

Precautionary Statements - Response

Specific measures (see Section 4 on this label)
 Immediately call a POISON CENTER or doctor/physician
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTER or doctor/physician
 Call a POISON CENTER or doctor/physician if you feel unwell
 Wash contaminated clothing before reuse
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Immediately call a POISON CENTER or doctor/physician
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth
 Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)**Other Information****3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS No.	Weight-%	Trade Secret
Sodium chlorite	7758-19-2	24.25-25.75	

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES**First aid measures**

General advice	Immediate medical attention is required.
Eye contact	Flush immediately with water for 15 minutes. Lift upper and lower eyelids for complete rinsing. Get immediate medical attention.
Skin Contact	Flush with water for 15 minutes. Get medical attention. Remove contaminated clothing and wash before reuse.
Inhalation	Remove victim from immediate source of exposure to fresh air. If breathing is difficult, administer oxygen if available. If victim is not breathing, administer CPR. If individual experiences nausea, headache, or dizziness, get immediate medical attention.
Ingestion	Rinse mouth with water. Give water to dilute. Do not induce vomiting. Get immediate medical attention. Never give anything by mouth to a semi-comatose, comatose, convulsing or unconscious person.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms

Acute Symptoms/Effects: Inhalation (Breathing): Breathing (Inhalation): Inhalation of airborne material may cause irritation, redness of upper and lower airways, coughing, laryngeal spasm and edema, shortness of breath, bronchio-constriction, and possible pulmonary edema. Severe and permanent scarring may occur. The pulmonary edema may develop several hours after a severe acute exposure. Skin: Skin Corrosion: Skin exposure to gas or liquid may cause redness, irritation, burning sensation, swelling, blister formation, first, second, or third degree burns. Eye: Serious Eye Damage: Exposure to eyes may cause irritation and burns to the eye lids, conjunctivitis, corneal edema, and corneal burn. Significant and prolonged contact may cause damage to the internal contents of the eye. Ingestion (Swallowing): Ingestion: Exposure by ingestion may cause irritation, nausea, and vomiting. Oxidation may cause significant metabolic issues such as: methemoglobinemia, hemolysis, and intravascular coagulation and renal failure. Delayed Symptoms/Effects:- Repeated and prolonged skin contact may cause a dermatitis.

Indication of any immediate medical attention and special treatment needed**Note to physicians**

Treat as a corrosive due to the pH of this material. This is also a strong oxidizer which will react with tissue in the presence of water. For prolonged exposures and significant exposures, consider delayed injury to exposed tissues. There is no specific antidote. Treatment is supportive care. Follow normal parameters for airway, breathing, and circulation. Ingestion of even small amounts of solution should be closely monitored for methemoglobinemia, hemolysis, and glutathione depletion, followed by renal failure. This chemical acts similarly to its related compound chlorate, and produces a drug induced G6PD deficiency. Methylene blue has not been reported as effective. Consult the PubMed Case Report PMID 22996135 for the case description and treatment utilized. 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. Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media None known.

Specific hazards arising from the chemical

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.

Hazardous combustion products Chlorine. Toxic fumes of sodium oxide.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Move containers from fire area if you can do it without risk. Use water spray to cool fire exposed containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures**Personal precautions**

Evacuate nonessential personnel. Ventilate area. Wear appropriate personal protection equipment. Avoid contact with skin, eyes and inhalation of vapors.

Environmental precautions

See Section 12 for additional ecological information.

Methods for containment	Completely contain spilled material with dikes or sand bags, etc.
Methods for cleaning up	Small spills may be flushed to an approved sewer line with generous amounts of water. For larger spills, dike well ahead of spill with non-reactive material such as sand. Spill may be neutralized with soda ash (sodium carbonate) broadcasted on surface. Use 1 to 1.5 lb. of soda ash for each gallon of spilled material. The resultant neutralized product will become carbon dioxide and water. Flush material with water and collect for disposal into plastic container. A flush to sewer may be allowed if approved by local authority. Combustible materials should be removed and/or rinsed with water to ensure that all residual hydrogen peroxide is removed to the extent possible.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe 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. Emergency Handling: In case of contamination or decomposition, do not reseal container. If possible, isolate container in open and well ventilated area. Flood with large volumes of water. If fire occurs, extinguish fire by applying large quantities of water. Any unopened drums near the fire should be cooled by spraying with water.
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Conditions for safe storage, including any incompatibilities

Storage Conditions	Store and handle in accordance with all current regulations and standards. Store in tightly closed, labeled containers away from combustible materials. Store in a cool, dry area. Store in a well-ventilated area. Store below 212 °F (100 °C). Avoid exposure to sunlight or ultraviolet light. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet). FROM EPA LABEL: Storage: Do not contaminate water, food or feed by storage or disposal. Keep product in tightly closed container when not in use. Don't drop, roll or skid drum. Keep upright. Always replace cover. Store in a cool, dry well-ventilated area away from heat or open flame. EMERGENCY HANDLING: In case of contamination or decomposition, do not reseal container. If possible, isolate container in open and well ventilated area. Flood with large volumes of water. If fire occurs, extinguish fire by applying large quantities of water. Any unopened drums near the fire should be cooled by spraying with water.
Incompatible materials	acids. reducing agents. combustible material. oxidizing agents. hypochlorite. organic solvents and compounds. garbage. dirt. organic materials. household products. chemicals. soap products. paint products. vinegar, beverages, oils, pine oil, dirty rags, sulfur-containing rubber, or any other foreign matter.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines **Appropriate engineering controls**

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear protective splash proof safety goggles. Additional full face protection is recommended if splashing is a possibility.
Skin and body protection	If contact is anticipated, wear protective clothing appropriate to use conditions. Wear appropriate chemical resistant gloves.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical state	liquid	Odor	Slight chlorine
Appearance	aqueous solution	Odor threshold	No information available
Color	Pale yellow, slightly cloudy		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	12	
Melting point/freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	1.23	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	90.45
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY**Reactivity**

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

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

Hazardous Decomposition Products

Chlorine dioxide is formed on contact with acids. Thermal decomposition products include chlorine and oxides of sodium.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	No data available
Inhalation	Toxic by inhalation.
Eye contact	Risk of serious damage to eyes.
Skin Contact	May cause burns.
Ingestion	Harmful if swallowed.

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	660 mg/kg
ATEmix (dermal)	536 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Pesticide Disposal: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance. Container Disposal: Nonrefillable Container Do not reuse or refill this container. Offer for recycling if available. Offer for reconditioning if appropriate. Triple Rinse or Pressure Rinse container promptly after emptying. Triple Rinse as follows: Empty remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least on complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Pressure Rinse as follows: Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse about 40 PSI for at least 30 seconds. Drain for 10 seconds, after the flow begins to drip.

Contaminated packaging Do not reuse container.

14. TRANSPORT INFORMATION

DOT	Regulated
UN/ID No.	UN1908
Proper shipping name	Chlorite Solution
Hazard Class	8
Packing Group	II

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECS - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

U.S. EPA Label Information

EPA Pesticide Registration Number 5382-43-150

EPA Statement

This chemical is a pesticide product registered by the 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, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label: PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS & DOMESTIC ANIMALS DANGER. Corrosive. Causes irreversible eye damage and skin burns. Harmful if swallowed. Irritating to nose and throat. Do not get in eyes, on skin or on clothing. Wear protective eyewear such as splash-proof goggles, face-shield, or safety glasses. Wear protective clothing and rubber gloves when handling this product. Avoid breathing mists or fumes. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. ENVIRONMENTAL HAZARDS This product is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to the discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA. PHYSICAL OR CHEMICAL HAZARDS Dry sodium chlorite is a strong oxidizing agent. This product becomes a fire or explosive hazard if allowed to dry. Mix only into water. 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 garbage, dirt, organic matter, household products, chemicals, soap products, paint products, solvents, acids, vinegar, beverages, oils, pine oil, dirty rags, or any other foreign matter.

16. OTHER INFORMATION

<u>NFPA</u>	Health hazards 3	Flammability 0	Instability 1	Physical and Chemical Properties -
<u>HMIS</u>	Health hazards 3	Flammability 0	Physical hazards 1	Personal protection X

Prepared By lmt
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Revision Note
13-Aug-2018 added ingredient information in Section 2.

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet