

Section 1. Identification

Product name : X-CIDE™ 825
 ™ a trademark of Baker Hughes Incorporated.

Product code : XC825

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

Identified uses : Industrial Bactericide.

Print date : 7/16/2020

Validation date : 7/16/2020

Version : 3

Supplier's details : Baker Petrolite LLC
 12645 W. Airport Blvd.
 Sugar Land, TX 77478
 For Product Information/SDSs Call: 800-231-3606
 (8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
 Baker Petrolite: 800-231-3606
 (001)281-276-5400
 CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE SOLIDS - Category 2
 ACUTE TOXICITY (oral) - Category 4
 ACUTE TOXICITY (dermal) - Category 4
 SKIN IRRITATION - Category 2
 SERIOUS EYE DAMAGE - Category 1
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
 AQUATIC HAZARD (ACUTE) - Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Flammable solid.
 Harmful if swallowed or in contact with skin.
 Causes serious eye damage.
 Causes skin irritation.
 May cause respiratory irritation.
 Very toxic to aquatic life.

Precautionary statements

Section 2. Hazards identification

- Prevention** : Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Avoid breathing dust. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
- Response** : Collect spillage. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it 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. Immediately call a POISON CENTER or physician.
- Storage** : Store locked up.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
2-Bromo-2-nitropropane-1,3-diol	80 - 90	52-51-7
Alkyl benzenesulfonate	5 - 10	68081-81-2
Ethoxylated octylphenol	1 - 5	Trade secret.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. 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. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Section 4. First aid measures

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : May cause respiratory irritation.
- Skin contact** : Harmful in contact with skin. Causes skin irritation.
- Ingestion** : Harmful if swallowed.

Over-exposure signs/symptoms

- Eye contact** : pain, watering, redness
- Inhalation** : respiratory tract irritation, coughing
- Skin contact** : pain or irritation, redness, blistering may occur
- Ingestion** : stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, alcohol-resistant foam or water spray (fog).
- Unsuitable extinguishing media** : Do not use water jet.

Specific hazards arising from the chemical : Flammable solid. This material is very toxic to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : carbon dioxide, carbon monoxide, nitrogen oxides, sulfur oxides, halogenated compounds

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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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

- For non-emergency personnel** : 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

- Small spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. 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. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. 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. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
2-Bromo-2-nitropropane-1,3-diol	None.
Alkyl benzenesulfonate	None.
Ethoxylated octylphenol	None.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Appropriate engineering controls : Use only with adequate ventilation. 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. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

- 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.
- Eye/face protection** : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.
- Hand protection** : Chemical-resistant gloves.
- Skin protection** : Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.
- Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Solid. [Stick.]
- Color** : White.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : 6 [Conc. (% w/w): 1%]
: 1% Aqueous Solution
- Melting/freezing point** : 70°C (158°F)
- Boiling point** : Not available.
- Initial Boiling Point** : Not available.
- Flash point** : Closed cup: >93.4°C (>200.1°F) [SFCC]
- Burning time** : Not available.
- Burning rate** : Not available.
- Evaporation rate** : Not available.

Section 9. Physical and chemical properties

Flammability (solid, gas)	: Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: Not available.
Vapor density	: >1 [Air = 1]
Relative density	: 1.7 (15.6°C)
Density	: 14.161 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
VOC	: Not available.
Pour Point	: 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	: Avoid all possible sources of ignition (spark or flame).
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials, organic materials, metals and alkalis. May decompose on exposure to light.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2-Bromo-2-nitropropane-1,3-diol	LD50 Dermal	Rat	1600 mg/kg	-
	LD50 Dermal	Rat	>2000 mg/kg	-
Ethoxylated octylphenol	LD50 Oral	Rat	307 mg/kg	-
	LD50 Oral	Mouse	3500 mg/kg	-
	LD50 Oral	Rat	4190 mg/kg	-

Irritation/Corrosion

No available toxicity data.

Sensitization

Section 11. Toxicological information

No available toxicity data.

Mutagenicity

No available toxicity data.

Carcinogenicity

Classification

No available toxicity data.

Reproductive toxicity

No available toxicity data.

Teratogenicity

No available toxicity data.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
2-Bromo-2-nitropropane-1,3-diol	Category 3	Not applicable.	Respiratory tract irritation
Alkyl benzenesulfonate	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : May cause respiratory irritation.
Skin contact : Harmful in contact with skin. Causes skin irritation.
Ingestion : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : pain, watering, redness
Inhalation : respiratory tract irritation, coughing
Skin contact : pain or irritation, redness, blistering may occur
Ingestion : stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Section 11. Toxicological information

Potential delayed effects : Not available.

Potential chronic health effects

General : No known significant effects or critical hazards.
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.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
X-CIDE™ 825	344.5	1893.5	Not available.	Not available.	Not available.
2-Bromo-2-nitropropane-1,3-diol	307	1600	Not available.	Not available.	Not available.
Alkyl benzenesulfonate	500	Not available.	Not available.	Not available.	Not available.
Ethoxylated octylphenol	4190	Not available.	Not available.	Not available.	Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
2-Bromo-2-nitropropane-1,3-diol	Acute EC50 0.02 ppm Fresh water	Algae - Scenedesmus subspicatus	96 hours
	Acute EC50 1.6 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 11.17 ppm Fresh water	Fish - Lepomis macrochirus	96 hours
	Chronic NOEC 1.94 ppm	Fish - Oncorhynchus mykiss	49 days
Ethoxylated octylphenol	Acute EC50 210 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute LC50 10800 µg/l Marine water	Crustaceans - Pandalus montagui - Adult	48 hours
	Acute LC50 8600 to 9800 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
X-CIDE™ 825	Acute LC50 7200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 5.9 mg/l	Daphnia	96 hours
	Acute LC50 121 mg/l	Daphnia	96 hours
	Acute LC50 20 mg/l	Fish	96 hours
	Acute LC50 35.7 mg/l	Fish	96 hours
	Acute LC50 57.6 mg/l	Fish	96 hours

Persistence and degradability

Not available.

Section 12. Ecological information

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


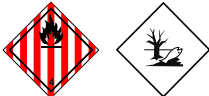


Additional information

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds or 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 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.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN3241	UN3241	UN3241	UN3241
UN proper shipping name	2-Bromo-2-nitropropane-1,3-diol	2-Bromo-2-nitropropane-1,3-diol	2-Bromo-2-nitropropane-1,3-diol	2-Bromo-2-nitropropane-1,3-diol
Transport hazard class(es)	4.1 	4.1 	4.1 	4.1 
Packing group	III	III	III	III
Environmental hazards	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

DOT Classification

: This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a.

Special provisions Limited Quantity

Remarks This material must be packed according to packing method OP6. It must be protected from direct sunshine and heat.

TDG Classification

: Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.20-2.22 (Class 4), 2.7 (Marine pollutant mark). The marine pollutant mark is not required when transported by road or rail.

Special provisions Limited Quantity

IMDG

: The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

Emergency schedules F-J S-G

IATA

: The environmentally hazardous substance mark may appear if required by other transportation regulations.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 14. Transport information

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

DOT Reportable Quantity : Not applicable.

Marine pollutant : 2-Bromo-2-nitropropane-1,3-diol

North-America NAERG : 133

Section 15. Regulatory information

U.S. Federal regulations : TSCA 12(b) one-time export: No products were found.
 TSCA 12(b) annual export notification: No products were found.
 United States inventory (TSCA 8b): Not determined.
 Clean Water Act (CWA) 307: No products were found.
 Clean Water Act (CWA) 311: No products were found.

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
None of the components are listed.				

SARA 302/304 : No products were found.

SARA 311/312

Classification

: FLAMMABLE SOLIDS - Category 2
 ACUTE TOXICITY (oral) - Category 4
 ACUTE TOXICITY (dermal) - Category 4
 SKIN IRRITATION - Category 2
 SERIOUS EYE DAMAGE - Category 1
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

SARA 313

Supplier notification : No products were found.

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

Canada

Canada (CEPA DSL): : Not determined.

Additional information

This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide ACT (FIFRA) and is therefore exempt from US Toxic Substance Control Act (TSCA) Inventory listing requirements.

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:

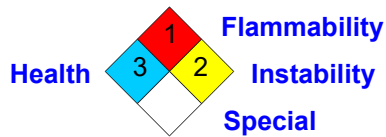
DANGER

Corrosive. Causes irreversible eye damage and skin burns. May be fatal if swallowed or inhaled. Harmful if absorbed through the skin. Do not get in eyes, on skin or on clothing. Do not breathe dust. For handling activities, use dust/mist filtering respirator (MSHA/NIOSH approved number prefix TC- 21C), or NIOSH approved respirator with any N, R, P, or HE pre-filter. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

This product is toxic to fish.

Section 16. Other information

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



History

Date of printing : 7/16/2020

Notice to reader

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.