Buckman

SAFETY DATA SHEET

BULAB 8020

BULAB is a registered trademark.

Section 1. Identification

GHS product identifier : BULAB 8020

Other means of identification : Not available.

Product type : Liquid.

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

See label and/or technical data sheet, if available.

Supplier's details : Buckman Laboratories, Inc.
1256 North McLean Boulevard
Memphis, TN 38108
Phone 1-800-282-5626

Emergency telephone number (with hours of operation) : 24 Hour Emergency Phone 1-800-424-9300

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 : ACUTE TOXICITY (oral) - Category 4
SKIN CORROSION - Category 1B
SERIOUS EYE DAMAGE - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 29.4%
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 59.8%

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Harmful if swallowed.
Causes severe skin burns and eye damage.

Precautionary statements

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

Section 2. Hazards identification

Response : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or 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 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

Other means of identification : Not available.

Product code : BLB8020

Ingredient name	%	CAS number
Propionic acid	30.37	79-09-4
Acetic Acid	20.99 - 21.522	64-19-7
Poly[oxyethylene(dimethyliminio)ethylene(dimethyliminio)ethylene dichloride]	19.98	31512-74-0
Amine oxide.	Proprietary	-

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

While some substances are claimed as trade secret in accordance with the provision of OSHA 29 CFR 1910.1200(i), all known hazards are clearly communicated within this document.

Per Appendix D 1910.1200 OSHA, ranges can be used when there is batch-to-batch variability in a mixture or a trade secret claim.

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 or the environment and hence require reporting in this section.

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 eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. 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. 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.

Section 4. First aid measures

Skin contact : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. 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. Stop if the exposed person feels sick as vomiting may be dangerous. 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. Chemical burns must be treated promptly by a physician. 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes severe burns.

Ingestion : Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
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 an extinguishing agent suitable for the surrounding fire.

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. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen 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.

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. Do not breathe vapor or mist. 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.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. 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.

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 breathe vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.

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 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. 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.

Satisfactory Materials of Construction :

Polypropylene
Teflon
PVC - rigid
Buna-N rubber
Neoprene
Silicone rubber
Polyethylene - crosslink
Polyethylene - high density
Polyethylene - low density
Butyl rubber
Fiberglass-reinforced polyester
Dow Sillastic Tube

NOTE: With respect to all other materials not listed above, user should be aware that use of such materials
with this product may be hazardous and result in damages to such materials and other property and personal injuries.
No data concerning such materials not listed above should be implied by the user.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Propionic acid	**ACGIH TLV (United States, 3/2016).** TWA: 10 ppm 8 hours. TWA: 30 mg/m³ 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 10 ppm 8 hours. TWA: 30 mg/m³ 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 10 ppm 10 hours. TWA: 30 mg/m³ 10 hours. STEL: 15 ppm 15 minutes. STEL: 45 mg/m³ 15 minutes.

Section 8. Exposure controls/personal protection

Acetic Acid	**ACGIH TLV (United States, 3/2016).** TWA: 10 ppm 8 hours. TWA: 25 mg/m³ 8 hours. STEL: 15 ppm 15 minutes. STEL: 37 mg/m³ 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 10 ppm 8 hours. TWA: 25 mg/m³ 8 hours. **NIOSH REL (United States, 10/2016).** TWA: 10 ppm 10 hours. TWA: 25 mg/m³ 10 hours. STEL: 15 ppm 15 minutes. STEL: 37 mg/m³ 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 10 ppm 8 hours. TWA: 25 mg/m³ 8 hours.

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.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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 : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state	: Liquid.
Color	: Clear, light amber
Odor	: Vinegar-like, pungent acidic.
Odor threshold	: Not available.
pH	: 3 to 4.5 [Conc. (% w/w): 10%]
Melting point	: 16.6°C (61.9°F)
Boiling point	: 118°C (244.4°F)
Flash point	: Closed cup: >100°C (>212°F) [Pensky-Martens.]
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not applicable.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: Not available.
Vapor density	: Not available.
Relative density	: 1.04 to 1.08
Dispersibility properties	: Not available.
Solubility	: Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Dynamic (room temperature): 100 mPa·s (100 cP)
VOC	: 50 % (w/w) [Method 24]

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	: Strong acids, strong bases, strong oxidizers, reducing agents, amines, ammonia and halogens.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.Acetic acid vapors may be evolved.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Propionic acid	LD50 Dermal	Rabbit	500 mg/kg	-
	LD50 Oral	Rat	2600 mg/kg	-
	LD50 Oral	Rat	2600 mg/kg	-
Acetic Acid	LC50 Inhalation Vapor	Rat	11000 mg/m³	4 hours
	LD50 Dermal	Rabbit	1060 mg/kg	-
	LD50 Oral	Rat	3310 mg/kg	-
Poly[oxyethylene (dimethyliminio)ethylene (dimethyliminio)ethylene dichloride]	LD50 Oral	Rat	1850 mg/kg	-
Amine oxide.	LD50 Oral	Rat	1020 mg/kg	-
BULAB 8020	LC50 Inhalation Gas.	Rat	>0.59 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	1000 to 5000 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Propionic acid	Eyes - Severe irritant	Rabbit	-	990 Micrograms	-
	Skin - Severe irritant	Rabbit	-	495 milligrams	-
Acetic Acid	Eyes - Mild irritant	Rabbit	-	0.5 minutes 5 milligrams	-
	Skin - Mild irritant	Human	-	24 hours 50 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 50 milligrams	-
	Skin - Severe irritant	Rabbit	-	525 milligrams	-
Amine oxide.	Eyes - Severe irritant	Rabbit	-	24 hours 50 Micrograms	-
	Skin - Severe irritant	Rabbit	-	24 hours 750 Micrograms	-
BULAB 8020	Skin - Moderate irritant	Rabbit	-	4 hours	14 days

Conclusion/Summary

Skin : Severe skin irritant.

Eyes : Irritation/Corrosive.

Respiratory : Harmful by inhalation. Severe respiratory irritant.

Sensitization

Not available.

Conclusion/Summary

Skin : Sensitization is rare, but has been reported in some hypersensitive individuals. Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons.

Respiratory : This product is not expected to be sensitizing.

Mutagenicity

Not available.

Conclusion/Summary : No known significant effects or critical hazards.

Section 11. Toxicological information

Carcinogenicity

This product has not been tested unless noted in summary results.

Conclusion/Summary : This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Reproductive toxicity

Not available.

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Not available.

Conclusion/Summary : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.
Routes of entry not anticipated: Oral.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes severe burns.

Ingestion : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
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.

Potential delayed effects : Not available.

Section 11. Toxicological information

Potential chronic health effects

Not available.

Conclusion/Summary : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation, leading to frequent attacks of bronchial infection. Prolonged or repeated exposure may cause: dermatitis (inflammation of the skin), itching, redness. Rats receiving drinking water containing 4% propionic acid developed tumors of the forestomach. No increase in the incidence of tumors occurred in any other organ or tissue. The relevance of this observation to human hazard is unknown and likely minimal considering the following: 1) The tumors occurred only in the presence of irritation to the forestomach tissure. 2) The rat stomach is anatomically dissimilar to the human stomach (humans have no forestomach; the exophagus has a similar cellular structure, but not the same food storage function.) 3) The preponderance of evidence indicates that propionic acid lacks genotoxic potential.

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

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
BULAB 8020	Acute EC50 0.31 mg/l Acute EC50 <0.1 mg/l Acute LC50 0.31 mg/l	Daphnia Daphnia Fish	48 hours 48 hours 96 hours

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. 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. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	3265	3265	3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Propionic acid, Acetic acid) RQ (Propionic acid, Acetic acid)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Propionic acid, Acetic acid). Marine pollutant (Propionic acid, Acetic acid)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Propionic acid, Acetic acid)
Transport hazard class(es)	8 	8 	8 
Packing group	III	III	III
Environmental hazards	No.	Yes.	No.
Additional information	**Reportable quantity** 16463.6 lbs / 7474.5 kg [1862.8 gal / 7051.4 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements. **Remarks** ERG Guide 153	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules** F-A, S-B **IMDG Code Segregation group** 1 - Acids **Remarks** ERG Guide 153, HazMat Code 4931466	The environmentally hazardous substance mark may appear if required by other transportation regulations. **Remarks** ERG Guide 153, ERG Code 8L

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.

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

Section 15. Regulatory information

Potential impurities present in trace quantities are included in the regulatory listings of this section.

U.S. Federal regulations : **United States inventory (TSCA 8b)**: Not determined.

Clean Water Act (CWA) 307: bis(2-chloroethyl) ether

Clean Water Act (CWA) 311: bis(2-chloroethyl) ether; propionic acid; acetic acid

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ (lbs)	SARA 302 TPQ (gallons)	SARA 304 RQ (lbs)	SARA 304 RQ (gallons)
Dichloroethyl ether	0.000666	Yes.	10000	981.5	10	0.98

SARA 304 RQ : 1501501.5 lbs / 681681.7 kg [169888 gal / 643095.9 L]

SARA 311/312

Section 15. Regulatory information

Classification : Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Propionic acid	30.37	Yes.	No.	No.	Yes.	No.
Acetic Acid	20.99 - 21.522	Yes.	No.	No.	Yes.	No.
Poly[oxyethylene(dimethyliminio) ethylene(dimethyliminio)ethylene dichloride]	19.98	No.	No.	No.	Yes.	No.
Amine oxide.	Proprietary	Yes.	No.	No.	Yes.	No.

CERCLA : CERCLA: Hazardous substances.: acetic acid: 5000 lbs. (2270 kg); propionic acid: 5000 lbs. (2270 kg); 1,4-dioxane: 100 lbs. (45.4 kg); bis(2-chloroethyl) ether: 10 lbs. (4.54 kg);

FDA : This product is not allowed for food contact uses.

FIFRA : This product is not a registered pesticide.

State regulations

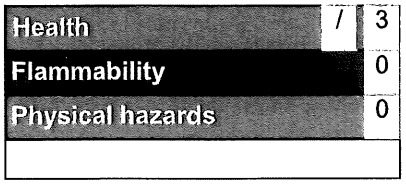
California Prop. 65

WARNING: This product can expose you to chemicals including 1,4-Dioxane, Bis(2-chloroethyl)ether, which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Ingredient name	Cancer	Reproductive
1,4-dioxane	Yes.	No.
bis(2-chloroethyl) ether	Yes.	No.

Section 16. Other information

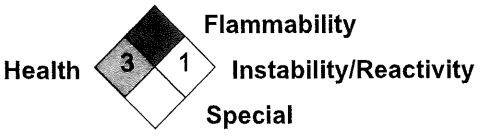
Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

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



Section 16. Other information

History

Date of printing	:	11/4/2017
Date of issue/Date of revision	:	10/30/2017
Date of previous issue	:	10/28/2017
Version	:	0.07
Prepared by	:	Buckman Regulatory Affairs
Key to abbreviations	:	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Buckman Laboratories, Inc. warrants that this product conforms to its chemical description and is reasonably fit for the purpose referred to in the directions for use when used in accordance with the directions under normal conditions. Buyer assumes the risk of any use outside of such directions.

Seller makes no other warranty or representation of any kind, express or implied, concerning the product, including NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS OF THE GOODS FOR ANY OTHER PARTICULAR PURPOSE. No such warranties shall be implied by law and no agent of seller is authorized to alter this warranty in any way except in writing with a specific reference to this warranty.
The exclusive remedy against seller shall be in a claim for damages not to exceed the purchase price of the product, without regard to whether such a claim is based upon breach of warranty or tort.

Any controversy or claim arising out or relating to this contract, or breach thereof, shall be settle by arbitration in accordance with the commercial arbitration rules of the American Arbitration Association, and judgment upon the rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof.

Buckman expressly disclaims responsibility, thus any liability, for the creation, accuracy, or completeness of the labeling and Safety Data Sheet (SDS) required for our customer's product under the Occupational Health and Safety Administration's Hazard Communication Standard, 29 C.F.R. §1910.1200 (2012). While our customers should take all necessary steps to ensure that an appropriate label and SDS is generated for their product and provided to all downstream users in accordance with the Hazard Communication Standard, customers may use information from Buckman's label and SDS for their product as a starting point for developing its own GHS-compliant label and SDS. Customer agrees to indemnify and hold Buckman harmless from any claims, causes of actions, fines, or damages sought by a local, state, or federal government, or agency, including its reasonable

Section 16. Other information

attorney fees, should Customer violate any OSHA laws or any other federal or state laws in using or selling this product.