Buckman

MATERIAL SAFETY DATA SHEET

BUSAN® 1078

SECTION 1: PRODUCT INFORMATION

PRODUCT NAME: Busan 1078	**PRODUCT USE:** Microbicide
MANUFACTURER/SUPPLIER: **Buckman Laboratories of Canada, Ltd**. 351 Joseph Carrier Vaudreuil-Dorion, Quebec J7V 5V5	**EMERGENCY TELEPHONE NUMBER:** 1-800-685-6376

SECTION 2: PREPARATION INFORMATION

MSDS PREPARED BY: Buckman Laboratories of Canada, Ltd**.**	**DATE PREPARED:** Sept. 30, 2014 **(M/D/Y)**
TELEPHONE: 450-424-4404	**SUPERSEDES:** Oct 28, 2011

SECTION 3: HAZARDOUS INGREDIENTS

INGREDIENT	CHEMICAL NAME	CAS REGISTRY #	% BY WT.
1	5-Chloro-2-methyl-4-isothiazolin-3-one	26172-55-4	0.5 - 1.5
2	2-Methyl-4-isothiazolin-3-one	2682-20-4	0.1 - 1.0
3	Magnesium nitrate	10377-60-3	1.0 - 5.0

INGREDIENT	ACUTE ORAL LD50 (mg/kg)	ACUTE DERMAL LD50 (mg/kg)	ACUTE INHALATION LC50 (ppm)	TLV
1	Not available	Not available	Not available	0.5 mg/m3
2	Not available	Not available	Not available	Not available
3	Not available	Not available	Not available	Not available

The balance of the components are not hazardous according to WHMIS classifications and are not listed on the Ingredient Disclosure List.

SECTION 4: PHYSICAL DATA

APPEARANCE: Clear to light green	**PHYSICAL STATE:** Liquid	**ODOUR:** Pungent, Strong	**ODOUR THRESHOLD:** Not available
DENSITY (g/ml @ 25°C): 1.02 - 1.04	**EVAPORATION RATE:** Not available	**VAPOUR DENSITY:** Not available	**VAPOUR PRESSURE:** 0.01 mm of Hg (@ 20°C)
pH (neat): 2.5 - 5.0	**pH (100 ppm in water)** 6.5	**BOILING POINT:** 100 °C	**FREEZING POINT:** -3 °C

OIL/WATER PARTITION COEFFICIENT: Not available	**SOLUBILITY:** Completely soluble in water

NOTE: The physical data presented above are typical values and should not be construed as specifications.

SECTION 5: FIRE AND EXPLOSION HAZARDS

FLASH POINT & METHOD: > 100 °C (Pensky-Martens Closed Cup)	**AUTO-IGNITION TEMPERATURE:** Not available
UPPER FLAMMABLE LIMIT (% vol. in air): Not available	**LOWER FLAMMABLE LIMIT (% vol. in air):** Not available
FLAMMABILITY CONDITIONS: Non flammable.	**HAZARDOUS COMBUSTION PRODUCTS:** Toxic vapors of sulfure dioxide, hydrogen chloride, and oxides of nitrogen.
EXTINGUISHING MEDIA: Use water spray to cool fire exposed surfaces and to protect personnel. Water fog, carbon dioxide, foam or dry chemical may be used to extinguish fire.	**SPECIAL FIRE FIGHTING PROCEDURES:** Wear NIOSH approved self-contained breathing apparatus (such as "Scott Air-Pak") , and full protective gear. Isolate "fuel" supply from fire.
EXPLOSION (Sensitivity to Mechanical Impact): Not available	**EXPLOSION (Sensitivity to Static Discharge):** Not available

SECTION 6: REACTIVITY

CHEMICAL STABILITY: Stable under normal conditions of use and storage.	**CONDITIONS OF UNSTABILITY:** None known
INCOMPATIBILITY WITH OTHER SUBSTANCES: Oxidizing agents, reducing agents, amines and mercaptans.	**HAZARDOUS DECOMPOSITION PRODUCTS:** Toxic vapors of sulfure dioxide, hydrogen chloride, and oxides of nitrogen.

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SECTION 7: TOXICOLOGICAL DATA

PRIMARY ROUTES OF EXPOSURE:

Eyes:	Yes	**Skin:**	Yes	**Inhalation**	Yes	**Ingestion:**	Not Expected

EFFECTS FROM ACUTE EXPOSURE:

Eye exposure:	Corrosive. Very hazardous in case of eye contact. Effects may vary depending on the length of exposure, solution concentration and first aid measures.
Skin exposure:	Corrosive to the skin. Sensitizer. Effects may vary depending on the length of exposure, solution concentration and first aid measures.
Inhalation:	May cause irritation or corrosion of mucous membranes and lungs. Do not breathe spray mists of the undiluted product. Effects will depend upon solution strength and length of time of exposure.
Ingestion:	Ingestion is not expected to be a primary route of exposure.

EFFECTS FROM CHRONIC EXPOSURE:
Repeated dermal exposures may cause allergic reactions.

ACUTE EFFECTS (Exposure Limits):

Acute Oral LD50:	3810 mg/kg (rat)
Acute Dermal LD50:	> 5000 mg/kg (rabbit)
Acute Inhalation LC50:	1.5 mg/L (female rat, 4hr); 1.4 mg/L (male rat, 4hr)

IRRITANT EFFECTS:	Corrosive to the eyes and skin.
SENSITIZATION EFFECTS:	Strong sensitizer
CARCINOGENIC POTENTIAL:	Not listed in any of OSHA Standards Section 1910.1200 sources as carcinogenic.
REPRODUCTIVE TOXICITY:	Animal tests for birth defects were negative.
TERATOGENICITY:	None known.
MUTAGENICITY:	In vitro mutagenicity studies on the active ingredients reported both positive and negative results.
SYNERGISTIC EFFECTS:	None known.

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SECTION 8: PREVENTION MEASURES

(The precautions for this product are based on the characteristics of the neat product unless otherwise specified.)

PERSONAL PROTECTION EQUIPMENT:
Hands: Chemically impermeable gloves required.
Eyes: Safety goggles or safety glasses with face shield required.
Respiratory: If misting can occur under poorly ventilated work conditions, a NIOSH approved half-mask respirator is required. The local EHS (Environmental Health and Safety) professional must identify and evaluate the respiratory hazards in the workplace. Based on this evaluation, the EHS professional must select the appropriate respiratory type and/or filter as required.
Body Protective Clothing: A chemical resistant protective clothing is required.
Footwear: Chemical resistant protective footwear required.
Other: An emergency shower complete with eye-wash fountain is strongly recommended.

ENGINEERING CONTROLS: General mechanical ventilation system is adequate. However, local exhaust system is preferred to maintain airborne concentrations below the recommended occupational exposure limits, whenever misting conditions are present or the material is used in a confined space.
LEAK AND SPILL PROCEDURES: Before responding to a spill or leak of this product, review each section of this MSDS. Follow the recommendations given in the "Handling Procedures and Equipment" section. Check the "Fire and Explosion Hazards" section to determine if the use of non-sparking tools is merited. Insure that spilled or leaked product does not come into contact with materials listed as incompatible. If irritating fumes are present, consider evacuation of affected areas. Initially minimize area affected by the spill or leak. Block any potential routes to water systems. Place in a properly labeled container for later disposal. Larger spills may require a vacuum.
WASTE DISPOSAL METHODS: Disposal shall be in accordance with all applicable federal, provincial and municipal waste regulations.
HANDLING PROCEDURES AND EQUIPMENT: Do not handle unless the safety precautions have been read and understood. Avoid skin and eye contact. Avoid inhalation of dust or vapours. Do not puncture, drag or slide containers. Do not smoke in any chemical handling or storage area. Wash hands before eating.
STORAGE REQUIREMENTS: Store in a dry well-ventilated location. Protect from freezing. Keep containers tightly closed. Store away from incompatible materials and ignition sources. Storage temperature: >= 1°C and <= 55°C.
SPECIAL SHIPPING INFORMATION: Refer to Section 10: TDG Classification.

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SECTION 9: FIRST AID MEASURES

EYE EXPOSURE:
Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 20-30 minutes, by the clock, while holding the eyelid(s) open. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. If necessary, keep emergency vehicle waiting. Take care not to rinse contaminated water into the unaffected eye or unto face. If irritation persists, repeat flushing. Quickly transport victim to an emergency care facility.

SKIN EXPOSURE:
As quickly as possible, flush with lukewarm, gently flowing water for at least 20 - 30 minutes or until the chemical is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts). If irritation persists, repeat flushing. Obtain medical advice immediately. Completely decontaminate clothing, shoes and leather goods before reuse or discard.

INHALATION:
Use proper respiratory protection to immediately move exposed individual to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. If breathing is stopped, trained personnel should begin artificial respiration (AR) or, if the heart has stopped, cardiopulmonary resuscitation (CPR) immediately. Avoid mouth to mouth contact by using mouth guards or shields. Immediately transport victim to an emergency care facility.

INGESTION:
NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 240 to 300 ml (8 to 10 oz.) of water to dilute material in stomach. If milk is available, it may be administered AFTER the water has been given. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Repeat administration of water. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. Quickly transport victim to an emergency care facility.

SECTION 10: REGULATORY CLASSIFICATIONS

TDG CLASSIFICATION:
CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. [5-chloro-2-methyl-4-isothioazolin-3-one, [2-methyl-4-isothiazolin-3-one]
Class 8 - UN 3265 - PG II

Pest Control Products Act: REGISTRATION NUMBER: 19001

U.S. FDA REGULATIONS: FDA (21 CFR) Section(s):
176.300 - Limitation: Not to exceed 2.5 pounds per ton of dry weight fiber.

WHMIS CLASSIFICATION:
Not applicable. This product is regulated by Pest Control Products Act - Health Canada.

DOMESTIC SUBSTANCES LIST (DSL):
Not applicable. This product is regulated by the Pest Control Products Act - Health Canada.

HAZARD RATING:

RATING	HEALTH	FLAMMABILITY	REACTIVITY
HMIS	3	0	0
NFPA	3	0	0

While the information and recommendations set forth are believed to be accurate as of the date of the Material Safety Data Sheet, Buckman Laboratories of Canada, Ltd. makes no warranty with respect thereto and disclaims all liability from reliance thereon. Buckman Laboratories of Canada, Ltd. urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. To promote the safe use and handling of this product, each customer or recipient should distribute this MSDS to the product users.

This MSDS expires Sept. 30, 2017

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