DI-CORP
DOWN TO EARTH BUSINESS

SAFETY DATA SHEET
HARDNESS BUFFER

SECTION 1: IDENTIFICATION

PRODUCT IDENTIFIER:	**HARDNESS BUFFER**
OTHER MEANS OF IDENTIFICATION:	Calcium Buffer
RECOMMENDED USE:	Laboratory reagent
RESTRICTIONS ON USE:	None known
SUPPLIER IDENTIFIER:	**Di-Corp** **8750-53 Ave** **Edmonton, AB T6E 5G2** **780-440-4923**
EMERGENCY PHONE NUMBER 24hr:	780-468-4064
EMERGENCY TRANSPORT NUMBER:	1-888-CANUTEC (226-8832), 613-996-6666 or *666 on a cellular phone

SECTION 2: HAZARD IDENTIFICATION

CLASSIFICATION:	Acute oral toxicity – Category 4 Skin corrosion – Category 1A Serious eye damage – Category 1 STOT – SE (Respiratory Irritant) – Category 3
LABEL SYMBOLS:	
SIGNAL WORD:	DANGER
CLASSIFICATION INFORMATION:	Harmful if swallowed. Causes severe skin burns and eye damage. May cause respiratory irritation.
OTHER HAZARDS:	Very toxic to aquatic life.
PRECAUTIONARY STATEMENTS:	**PREVENTION** Keep container tightly closed. Wash hands, face and exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe fumes. Use only outdoors or in a well-ventilated area. Wear protective gloves, clothing, eye and face protection when handling. **RESPONSE** IF SWALLOWED: Rinse mouth. Do not induce vomiting. Immediately call a Poison Center or doctor if you feel unwell. 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/doctor. 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. IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor. **STORAGE** Store locked up in a well-ventilated place. Keep container tightly closed. **DISPOSAL** Dispose of product and containers in accordance with local, provincial and federal

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regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
Ammonium hydroxide (aqueous ammonia)	1336-21-8	50 – 60% (v/v)
Ammonium chloride	12125-02-9	5 – 10% (w/v)
Propylene glycol	57-55-6	20% (v/v)

SECTION 4: FIRST AID MEASURES

SKIN CONTACT:	As quickly as possible, remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Quickly and gently blot or brush away excess chemical. Immediately flush with lukewarm, gently flowing water for at least 15 minutes. If irritation persists, or chemical burns develop, obtain medical attention when flushing is complete.
EYE CONTACT:	Flush with gently flowing warm water for minimum 30 minutes. Hold eyelids open to ensure thorough flushing. Neutral saline may be used as soon as it is available. Obtain medical attention when flushing is complete and no further irritation is felt, or permanent damage may result.
INGESTION:	Rinse mouth. Do not induce vomiting. Obtain immediate medical attention. If spontaneous vomiting occurs keep head below hips to prevent aspiration of the vomit into the lungs; have victim rinse mouth with water again. Never give anything by mouth if patient is unconscious, rapidly losing consciousness or convulsing.
INHALATION:	If inhaled remove person to fresh air and keep comfortable for breathing. Obtain immediate medical attention. If victim is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
MOST IMPORTANT SYMPTOMS / EFFECTS:	Causes severe skin and eye burns. Causes digestive tract burns.
IMMEDIATE MEDICAL ATTENTION / SPECIAL TREATMENT	Immediate first aid or medical attention is required to reduce the chance of permanent injury due to eye contact or skin contact. If swallowed, contact emergency services or Poison Control Center immediately. Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:	Use media appropriate for packaging and surrounding materials.
UNSUITABLE EXTINGUISHING MEDIA:	No information available.
SPECIFIC FIRE HAZARDS:	This product is not flammable under normal conditions. However, ammonia gas may be generated: Ammonia gas can be ignited and pose a significant fire and explosion hazard in a fire situation.
HAZARDOUS COMBUSTION PRODUCTS:	No information available.
SPECIAL PROTECTIVE EQUIPMENT & PRECAUTIONS:	Self-contained breathing apparatus required for fire-fighting personnel. Move containers from fire area, or cool with water spray, if possible.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIMENT AND EMERGENCY PROCEDURES

Use appropriate safety equipment.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP

Soak up spills with noncombustible absorbent material. Collect in appropriate containers for disposal. Rinse spill area thoroughly with water.

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SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Practice reasonable caution and personal cleanliness. Avoid skin and eye contact. Wash thoroughly after handling. Launder contaminated clothing before reuse. Use in a well-ventilated place.

CONDITIONS FOR SAFE STORAGE & INCOMPATIBILITIES

Store in cool, dry place separate from incompatible materials. Keep containers tightly closed and away from sources of heat at all times.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

CHEMICAL NAME	**EXPOSURE LIMITS**
Ammonium hydroxide	ACGIH TLV-TWA = 25 ppm (ammonia) ACGIH TLV-STEL = 35 ppm (ammonia)
Ammonium chloride	ACGIH TLV-TWA = 10 mg/m^3 (fume) ACGIH TLV-STEL = 20 mg/m^3 (fume)
Propylene glycol	WEEL TWA = 10 mg/m^3 (8 hour weighted average)

ENGINEERING CONTROLS:	Use only with adequate ventilation. If user operations generate vapour or mist use process enclosure, local exhaust ventilation or other engineering controls to keep worker exposure below limits. Ensure ventilation equipment is corrosion resistant and separate from other exhaust ventilation systems.
	PERSONAL PROTECTIVE MEASURES
RESPIRATORY PROTECTION:	Use a properly fitted particulate filter respirator complying with an approved standard if airborne concentrations exceeds TLV or if a risk assessment indicates this is necessary.
PROTECTIVE GLOVES:	Rubber gauntlets recommended.
EYE PROTECTION:	Wear tight fitting chemical goggles. DO NOT wear contact lenses.
OTHER PROTECTIVE EQUIPMENT (SPECIFY):	Protective clothing as required to prevent contact. Ensure eye-wash station and emergency shower are available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Clear colourless liquid
ODOUR:	Strong ammonia odour
ODOUR THRESHOLD:	0.043 ppm (ammonia)
pH:	Not available
MELTING POINT / FREEZING POINT:	<-15°C
BOILING POINT / RANGE:	Not available
FLASH POINT:	Not applicable
EVAPORATION RATE:	Not applicable
FLAMMABILITY:	Not applicable
FLAMMABILITY / EXPLOSIVE LIMITS:	Not applicable
VAPOUR PRESSURE:	Not available
VAPOUR DENSITY:	Not available
RELATIVE DENSITY:	1.0
SOLUBILITY:	Miscible in water
PARTION COEFFICIENT:	Not available
AUTO-IGNITION TEMPERATURE:	Not applicable
DECOMPOSITION TEMPERATURE:	Not applicable
VISCOSITY:	Not applicable

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SECTION 10: STABILITY AND REACTIVITY

REACTIVITY:	Not available.
CHEMICAL STABILITY:	Stable under recommended storage conditions. Ammonia gas may be given off under normal conditions.
POSSIBILITY OF HAZARDOUS REACTIONS:	None known.
CONDITIONS TO AVOID:	High temperatures, open flames, electric sparks.
INCOMPATIBLE MATERIALS:	Oxidizing materials, heavy metals and their salts, halogens, nitromethane, strong mineral acids, water reactive materials.
HAZARDOUS DECOMPOSITION PRODUCTS:	May react with metals generating explosive hydrogen gas. Releases ammonia gas which decomposes to flammable hydrogen gas and nitrogen at ~450-500°C.

SECTION 11: TOXICOLOGICAL INFORMATION

PRODUCT TOXICITY: Not available.

COMPONENT	LD50 (oral)	LD50 (dermal)	LD50 (inhalation)
Ammonium hydroxide	350 mg ammonia/kg (rat)	Not available	2000 ppm ammonia/4 hr (rat)
Ammonium chloride	1630 mg/kg (rat)	Not available	Not available
Propylene glycol	20 g/kg (rat)	20800 mg/kg (rabbit)	Not available

SKIN CONTACT:	Vapours may cause mild to moderate irritation especially to areas of broken skin. Liquid may cause severe pain and possibly burns. Repeated or prolonged contact may cause dermatitis.
EYE CONTACT:	Corrosive! Vapours cause eye irritation and possible burns. Contact with liquid may cause severe damage including burns and blindness. Severity of effects depends on concentration and how soon after exposure the eyes are washed.
INGESTION:	Corrosive! May cause severe burns and complete tissue perforation of mucous membranes of mouth, throat and stomach. Ingestion is harmful and may be fatal.
INHALATION:	Ammonia gas is readily released from ammonium hydroxide solutions, depending on the concentration of the solution and the temperature. Ammonia gas is a severe respiratory tract irritant. Brief exposure to concentrations above 1500 ppm can cause pulmonary edema, a potentially fatal accumulation of fluid in the lungs. Symptoms of pulmonary edema (tightness in the chest and shortness of breath) can develop up to 48 hours after exposure and are aggravated by physical exertion. Numerous cases of fatal ammonia exposure have been reported.
CARCINOGENICITY:	The ingredients of this product are not known to be carcinogenic.
TERATOGENICITY:	No information available.
REPRODUCTIVE TOXICITY:	No information available.
MUTAGENICITY:	No information available.
CHRONIC TOXICITY:	No information available.
TARGET ORGAN EFFECTS:	Not available.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: Not available.

COMPONENT	LC50 (freshwater fish)	EC50 (algae)	EC50 (water flea)
Ammonium hydroxide	0.53 mg/L/96 hr	Not available	0.66 mg/L/48 hr
Ammonium chloride	209 mg/L	Not available	202 mg/L/24 hr

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Propylene glycol	41-47 mL/L/96 hr (oncohynchus mykiss)	19000 mg/L/96 hr (pseudokirchneriella subcapitata)	>10000 mg/L/24 hr (daphnia magna)

PERSISTENCE AND DEGRADABILITY:	Not available.
BIOACCUMULATIVE POTENTIAL:	Not available.
MOBILITY IN SOIL:	Not available.
OTHER ADVERSE EFFECTS:	Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with federal, provincial and local regulations. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal. Empty containers, which have not been cleaned and purged, contain residual hazardous material and must be recycled, or disposed of, in accordance with local regulations.

SECTION 14: TRANSPORTATION INFORMATION

TDG	Regulated
DOT	Regulated
IATA	Regulated
IMDG	Regulated
UN NUMBER:	UN1760
PROPER SHIPPING NAME:	CORROSIVE LIQUID, N.O.S. (ammonium hydroxide)
CLASS:	8
PACKING GROUP:	III
IMDG HAZARDS:	Not available
BULK TRANSPORT:	Not regulated
SPECIAL PRECAUTIONS:	None

NOTE: Lab reagent size product can be shipped as a LIMITED QUANTITY.

SECTION 15: REGULATORY INFORMATION

DSL:	All ingredients are listed.
WHMIS CLASS:	E
TSCA:	All ingredients are listed.

SECTION 16: OTHER INFORMATION

REVISION DATE:	July 4, 2018
PREVIOUS VERSION DATE:	Not applicable

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