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THIS APPLIES TO UNDILUTED MATERIAL ONLY!

Safety Data Sheet
LUMA SHINE 2_{502}
SDS Revision Date: 08/03/2020

1. Product and Company Name

1.1. Product identifier

sProduct Identity	LUMA SHINE 2_{502}	
Alternate Names	NA	ID NO: 502.20

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

Intended use	See Product Label
Application Method	See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Company Name	Hydrus Detergents 2621 7th Avenue South Estherville, IA. 51334

1.4 Medical and Emergency Spill Information

FOR EMERGENCY SPILL, LEAK, FIRE, EXPOSURE CALL 24/7	CHEMTREC: (800) 424-9300 Outside US: (703)-527-3887
Customer Service: Hydrus Detergents	PHONE: (712) 765-1060 FAX: (712) 765-1062

2. Hazard identification of the product

2.1. Classification of the substance or mixture

Acute Tox. 4;H302	Harmful if swallowed.
Skin Corr. 1A;H314	Causes severe skin burns and eye damage.
Eye Dam. 1;H318	Causes serious eye damage.

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

Danger

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

[Prevention]:

P261 Avoid breathing fume/gas/mist/vapors/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves / eye protection / face protection.

[Response]:

P301+330+331 IF SWALLOWED: Call a physician immediately. Rinse out mouth. Do NOT induce vomiting.
P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Shower off immediately. Massage in a 2.5%

calcium gluconate gel until pain is relieved. Seek immediate medical attention.
P304+312 IF INHALED: Call doctor / physician if you feel unwell.
P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P308+313 IF exposed or concerned: Seek immediate medical attention.
P310 Immediately call doctor / physician if you feel unwell.
P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P363 Wash contaminated clothing before reuse. Discard any that cannot be de-contaminated.
P391 Collect spillage.
[Storage]:
P403+233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
[Disposal]:
P501 Dispose of contents / container in accordance with local / national regulations.

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %
Sulfuric Acid **CAS Number: 0007664-93-9**	**15-40**
Ammonium Bifluoride **CAS Number: 0001341-49-7**	**05 – 20**

4. First aid measures

4.1. Description of first aid measures

General
Move victim to fresh air.
Call 911 or emergency medical service if deemed necessary.
Give artificial respiration if victim is not breathing.
Does not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Administer oxygen if breathing is difficult.
Remove and isolate contaminated clothing and shoes.
In case of contact with substance, see FIRST AID below.
Avoid getting material on unaffected skin.
Keep victim warm and quiet.
Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and taking precautions to protect themselves.
Massaging in a 2.5% Calcium Gluconate gel helps with pain relief.
NOTES TO PHYSICIAN: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product ma have occurred.

Inhalation
Move to fresh air. Call emergency medical care. Apply artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiration medical equipment. Administer oxygen if breathing is difficult.

Eyes
Allow streaming water to flow over the face while blinking the eyes for at least 15 minutes, making sure you have complete irrigation of the eye and lids. Seek medical attention immediately.

Skin
Immediately flush skin with plenty of water for at least 15-minutes; while removing contaminated clothing/shoes. After rinsing, massage in a 2.5% Calcium Gluconate gel until pain is relieved. If pain persists contact a physician.

Ingestion
If swallowed, Do NOT induce vomiting, Seek medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

Overview
ACUTE: Extremely corrosive to all body tissue.
Chronic: None known.
INHALATION Mist may cause damage to upper respiratory tract and/or damage lung tissue.
EYES: Tissue destruction and permanent eye damage may occur if not treated immediately.
SKIN: Can be a severe irritant. May be corrosive and cause severe burns.
INGESTION: Corrosive to mucous membranes of the mouth, esophagus, stomach and throat.

Eyes
Tissue destruction and permanent eye damage may occur if not treated immediately.

Skin
May be corrosive and cause severe burns. Can also be a severe irritant.

Ingestion
May be harmful if swallowed. (Not adopted by US OSHA) Corrosive to mucous membranes of the mouth, esophagus, stomach and throat.

Inhalation
Severe irritation and burning may be caused by exposure to mist. Avoid the mist.

5. Fire-fighting measures

5.1. Extinguishing media: Water, Alcohol, Carbon Dioxide, Foam, Dry Chemical. Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: Oxides of sulfur at high temperatures. Hazardous gases may evolve on contact with chemicals such as cyanides, sulfides and carbides. Avoid breathing fume/gas/mist/vapors/spray.

5.3. Advice for fire-fighters: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.) Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated.

TOXIC: Inhalation, ingestion or skin contact with material may cause severe injury or death. Contact with molten substance may cause severe burns to skin and eyes. Avoid any skin contact. Effects of contact or inhalation may be delayed!

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6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures: ELIMINATE all ignition sources (no smoking, flares, sparks of flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

6.2. Environmental precautions: Do not allow spills to enter drains or water courses. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly removed soiled clothing and wash thoroughly before re-use. Keep alkaline chemicals away from this product.

Do not allow spills to enter drains or waterways.

6.3. Methods and material for containment and cleaning up:
LARGE SPILL: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters. (150 feet) for liquid. Keep unauthorized personnel away. Stay upwind. Keep out of low areas.
Ventilate enclosed areas.
Contain, dilute cautiously with water, and neutralize with soda ash, lime or limestone.

7. Handling and storage

7.1. Precautions for safe handling	Always add acid slowly and in small amounts. Never use hot water. Never add water to acids-always add acids to water. See section 2 for further details. - [Prevention]:
7.2. Conditions for safe storage, including any incompatibilities	Handle containers carefully to prevent damage and spillage. Incompatible materials: Acids react with most metals to release hydrogen gas which can form explosive mixtures in air. Alkaline solutions, metals, metal powder, carbides, chlorates, nitrates, strong oxidizers, reducers, or combustible organics. See Section 2 for further details – (Storage)
7.3. Specific end use(s)	Aluminum Brightener Detergent

8. Exposure controls and personal protection

8.1. Control parameters **EXPOSURE**

CAS No.	Ingredient	Source	Value
0007664-93-9	Sulfuric Acid	OSHA	TWA 1mg/m3
		ACGIH	TWA: 0.2 mg/m3A, 1, Revised 2004,
		NIOSH	TWA 1 mg/m3
		Supplier	No Established Limit

Carcinogen Data: No suspected or known carcinogens.

8.2. Exposure controls

Respiratory	Use NIOSH/MSHA approved respirator, following manufacturer's recommendations when concentrations exceed permissible exposure limits.
Eyes	Wear safety glasses with side shields to protect eyes. Use Face Shield. Emergency eye wash station should be in close proximity.
Skin	Chemical resistant clothing such as coveralls/apron boots should be worn. Rubber or acid resistant protection for hands. A 2.5% Calcium gluconate gel shouldbe at safety station.
Engineering Controls	Use with adequate ventilation
Other Work Practices	When using the product always wear all protective clothing for feet, hands, eyes, skin and inhalation. Facilities storing or using this material should be equipped with an eyewash facility and emergency shower. A 2.5% Calcium gluconate gel should also be at a safety station. Good

personal hygiene practices should always be followed. Always wash thoroughly after handling.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

Appearance	Milky White Liquid
Odor	Acid odor
Odor threshold	Not Measured
pH	5% Solution = 1
Melting point / freezing point	212 F
Initial boiling point and boiling range	NA
Flash Point	Not Measured
Evaporation rate (Ether = 1)	Not Measured
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	**Lower Explosive Limit:** Not Measured **Upper Explosive Limit:** Not Measured
Vapor pressure (Pa)	23 @ 70F
Vapor Density	(Air=1) 1.2
Specific Gravity	1.14
Solubility in Water	Soluble
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured

9.2. Other information: No other relevant information.

10. Stability and reactivity

10.1. Reactivity: Hazardous Polymerization will not occur.

10.2. Chemical stability: Stable under normal circumstances.

10.3. Possibility of hazardous reactions: Chlorine Bleach

10.4. Conditions to avoid: Excessive heat. Alkaline Products, Chlorine Bleach.

10.5. Incompatible materials: Acids react with most metals to release hydrogen gas which can form explosive mixtures in air. Water, alkaline solutions, metals, metal powder, carbides, chlorates, nitrates, strong oxidizers, reducers or combustible organic.

10.6. Hazardous decomposition products: Oxides of sulfur at high temperatures. Hazardous gases may evolve on contact with chemicals such as cyanides, sulfides and carbides.

11. Toxicological information

Acute toxicity

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
Sulfuric Acid – (7664-93-9)	2,140.00, Rat-Category: 5	No data available	No data available	No data available	No data available
Ammonium Bifluoride – (1341-49-7)	147.00, Rat-Category: 3	No data available	No data available	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	5	Toxic if swallowed
Acute toxicity (dermal)	4	Severe burns
Acute toxicity (inhalation)	4	Harmful if inhaled.
Skin corrosion/irritation	1A	Causes severe skin burns and eye damage.
Serious eye damage/irritation	1	Causes serious/severe eye damage.
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	----	Not Applicable
Reproductive toxicity	---	Not Applicable

STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

12. Ecological information

12.1. Toxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Sulfuric Acid – (7664-93-9)	42.00, Gambusia affinis	42.50, Pandalus montagui	Not Available

12.2. Persistence and degradability: There is no data available on the preparation itself.

12.3. Bioaccumulative potential: Not Measured

12.4. Mobility in soil: No data available

12.5. Results of PBT and vPvB assessment: This product contains no PBT/vPvB chemicals

12.6. Other adverse effects: No data available.

13. Disposal considerations

13.1. Waste treatment methods: Do not allow into drains or water courses. Wastes and emptied containers should be disposed of in accordance with regulations made under the Control of Pollution Act and the Environmental Protection Act.

Using information provided in the data sheet advice should be obtained from the Waste Regulation Authority, whether the special waste regulations apply.

14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	UN2817	UN2817	UN2817
14.2. UN proper shipping name	UN2817, Ammonium Hydrogendifluoride Solution, 8, (6.1), II	Ammonium Hydrogendifluoride Solution, 8, (6.1), II	Not Legal
14.3. Transport hazard class(es)	**DOT Hazard Class:** 8 **DOT Label:** 8, 6.1	**IMDG:** 8 **Sub Class:** 6.1	**Not Legal**
14.4. Packing group	II	II	II

14.5. Environmental hazards

IMDG Marine Pollutant: No

14.6. Special precautions for user

No further information

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not Applicable.

15. Regulatory information

Regulatory Overview The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA) All ingredients of this product are listed on the TSCA (Toxic Substance Control Act) Inventory or are not required to be listed on the TSCA Inventory.

WHMIS Classification D2B E

US EPA Tier II Hazards

Fire: No
Sudden Release of Pressure: No
Reactive: No
Immediate (Acute): Yes
Delayed (Chronic): No

EPCRA 311/312 Chemicals and RQs (lbs.): Ammonium Bifluoride (100.00) Sulfuric Acid (1,000.00)

EPCRA 302 Extremely Hazardous : Sulfuric Acid

EPCRA 313 Toxic Chemicals: Sulfuric Acid

Proposition 65 - Carcinogens (>0.0%): (No Product Ingredients Listed)

Proposition 65 - Developmental Toxins (>0.0%): (No Product Ingredients Listed)

Proposition 65 - Female Repro Toxins (>0.0%): (No Product Ingredients Listed)

Proposition 65 - Male Repro Toxins (>0.0%): (No Product Ingredients Listed)

N.J. RTK Substances (>1%): Ammonium Bifluoride, Sulfuric Acid

Penn RTK Substances (>1%): Ammonium Bifluoride, Sulfuric Acid

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

We believe this Safety Data Sheet conforms to the requirements of US OSHA 29 CFR 1910.1200, 91/155/EEC and Canadian Hazardous Products Act. We believe the information contained on this Safety Data Sheet is current and offered in good faith. The information is provided for your guidance only. Hydrus Detergents makes no warranty of any kind, express or implied, concerning the accuracy or completeness of the information and data herein. It is the user's obligation to determine the suitability of this product for a specific purpose and the conditions for safe use of the product. We reserve the right to revise this Safety Data Sheet as newer information becomes available. Hydrus Detergents makes no warranty of any kind.

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