

SAFETY DATA SHEET



SDS No.: 20028008
Revision: February 14, 2020
Date Created: October 16, 2000

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: Dakota Brite Plus MX
General Use: Aluminum & Stainless Steel Cleaner - Ready-to-use
Product Description: Blue Liquid with Citrus Odor

MANUFACTURER

Dakota Ag Innovations, LLC
40690 253rd Street
Mitchell, South Dakota 57301

EMERGENCY TELEPHONE NUMBER:

(800)-424-9300 CHEMTREC USA & CANADA
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2. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

GHS CLASSIFICATION OF SUBSTANCE

Flammable Liquid	Not Classified Under GHS and Not Applicable
Aspiration Toxicity	Not Classified Under GHS and Not Applicable
Skin Corrosion/Irritation	Category 2 - Phosphoric Acid; Hydrofluoric Acid
Eye Corrosion/Irritation	Category 2 - Phosphoric Acid; Hydrofluoric Acid
Carcinogenicity	Not Classified Under GHS
Specific Organ Toxicity Repeated Exposure	Not Classified Under GHS
Specific Organ Toxicity Single Exposure	Not Classified Under GHS
Reproductive Toxicity	Not Classified Under GHS
Acute Toxicity	Category 4 - respiratory system; skin; eyes
Germ Cell mutagenicity	Not Classified Under GHS
Corrosive to Metals	Not Determined
Hazardous to the aquatic environment	See Section 12 for information

Hazard Category - means the division of criteria within each hazard class, e.g. acute toxicity includes five hazard categories and flammable liquids include four hazard categories. These categories compare hazard severity within a hazard class. "GHS Classification of Substance" means the material hazard class under that particular category and should not be taken as a comparison of hazard categories more generally. Degree of severity under GHS is "1" being the most severe and sequential numbers indicating correspondingly less severity. "Not Classified Under GHS" does not have characteristics that fall into any of the categories for that hazard class.

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GHS LABEL ELEMENTS



eye, skin, inhalation irritatio

WARNING

Hazard Statements

H319 - Causes serious eye irritation

H315 - Causes skin irritation

H332 - Harmful if inhaled as a mist

Precautionary Statements

General:

P101-If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P103-Read label before use.

Prevention:

P280 - Wear goggle eye protection when spraying this product. Avoid wearing contact lens when spraying this product undiluted form.

P261 - Avoid breathing mist spray in concentrated form.

P280 - Wear protective gloves when handling concentrated product with possible direct skin exposure.

Response:

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.

P310 - Immediately seek medical attention if symptoms persist more than a short time after exposure and completing response.

P304+P340 - IF INHALED: Remove person to fresh air. Seek IMMEDIATE medical attention if irritation persists or re-occurs after a prolonged period of time.

P303+361+353 - IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin immediately with water if exposed.

Storage/Disposal:

P403+235+404-Store in well-ventilated place. Keep cool. Store in closed container.

P501-Dispose of contents/container in accordance with local/regional/federal regulations.

UN GHS

This product is acidic and contains fluoride ion. Fluoride ion can cause delayed symptoms up to 24 hours depending on the concentration of HF. This product has a low concentration of HF (<1%) but may still cause symptoms depending on extent of exposure and duration.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>wt%</u>	<u>CAS Registry #</u>
Sodium Olefin Sulfonate (C14 - C16)	<0.1	68439-57-6
Sodium Xylene Sulfonate	<0.1	68585-34-2
Hydrofluoric Acid	<1	7664-93-9
Phosphoric Acid	<0.5	7664-38-2
Alcohol Ethoxylated	<0.2	Mixture
Sodium MetaSilicate Pentahydrate	<0.2	6834-92-0
Sodium Alkyl Ether Sulfate	<0.3	68585-34-2
the balance is water		

4. FIRST AID MEASURES

INHALATION:

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Remove to fresh air and keep at rest in a comfortable position. Get medical attention if symptoms persist after moving to fresh air. Give oxygen if available, symptoms persist, and medical attention is not immediate.

EYE CONTACT:

Remove contact lens (if present). Rinse eyes immediately with plenty of clean water for at least 15 minutes. If necessary, gently hold the eyelid open during the flush. Seek medical attention following initial eye washing. Product is caustic and irreversible eye damage can occur if material is not successfully removed from the eyes.

SKIN CONTACT:

Immediately wash skin with mild soap solution to remove material from skin. Remove affected clothing and launder prior to re-use. If skin damage occurs other than redness, seek medical attention and provide this SDS to attending medical personnel. Application of 2.5 to 33% Calcium gluconate or carbonate gel or slurry is recommended for dermal treatment.

INGESTION:

Ingestion is not a likely route of exposure based on commercial product use. If ingestion occurs, seek immediate medical attention. Do not induce vomiting or give anything but water by mouth without being directed to do so by POISON CONTROL or attending medical personnel.

5. FIRE FIGHTING MEASURES

Flashpoint and Method:	> 164 °F/93 °C
Flammable Limits:	Not Determined
Autoignition Temperature:	Not Determined

GENERAL HAZARD:

Water based and not flammable. Heated liquid may create a corrosive mist during a fire. Hydrogen fluoride is non-combustible but may create irritating and corrosive fumes of fluoride when heated or in combination with steam or water. Since hydrogen fluoride does not burn, use an extinguishing agent suitable for surrounding fire. For fires involving hydrofluoric acid, apply water in flooding quantities. Hydrofluoric acid and various metals may form hydrogen creating a fire hazard.

FIRE FIGHTING INSTRUCTIONS:

Suitable extinguishing media include: carbon dioxide or dry chemical or other media suitable for hydrocarbon fires. Unsuitable extinguishing media include: water spray. However, if water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible explosion when exposed to extreme heat.

FIRE FIGHTING EQUIPMENT:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. For small outdoor fires which may be easily extinguished with a portable fire extinguisher, use of any SCBA may not be necessary.

FURTHER INFORMATION:

During a fire, smoke may contain the original material in addition to combustion products which might be more irritating. Residue remaining following a fire needs to be evaluated for disposal options.

HAZARDOUS COMBUSTION PRODUCTS:

Carbon monoxide, carbon dioxide, fluorides and phosphates and organics depending on the heat of the fire.

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6. ACCIDENTAL RELEASE MEASURES

LAND SPILL RESPONSE:

Small spills will soak into the earth and contribute some fluoride and phosphate to the soils but should not cause significant effects. Dike larger spills and recover what can be recovered. Containerize waste in a non-metal container. Dispose of in accordance with local authorities. Waste is not expected to be hazardous as some acid will be neutralized by the earth.

WATER SPILL:

Product is water based and will immediately mix with water and is not recoverable. Product contributes surfactants, fluorides, and phosphates to the water body. A small spill should not significantly impact the water body. Product is acutely toxic but should have no long term effects other than providing nutrients to plant mate

RECOMMENDED DISPOSAL:

Disposal options may be dictated by other materials mixed with this material. Dispose of in accordance with local, state, and federal regulations using methods which consider recycling/reclamation.

7. HANDLING AND STORAGE

STORAGE TEMPERATURE: Ambient

STORAGE PRESSURE: Atmospheric

GENERAL:

Keep the container tightly closed. Store in a dry, cool, and well-ventilated place away from incompatible materials. Hydrofluoric acid reacts with glass, concrete, metals, other acids, oxidizers, reducers, akalis, and combustibles. Store in containers made of a material resistant to HF.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200 and other agencies)

Component	EXPOSURE LIMITS 8 hrs TWA (ppm)				
	OSHA PEL	ACGIH TLV	NIOSH REL	AIHA WEEL	Other
Hydrofluoric Acid	2.3 mg/m ³ Ceiling	2.3 mg/m ³ Ceiling	2.3 mg/m ³ Ceiling		
Phosphoric Acid	1 mg/m ³ TWA	1 mg/m ³ TWA	1 mg/m ³ TWA		
	3 mg/m ³ Ceiling	3 mg/m ³ Ceiling	3 mg/m ³ Ceiling		
Sodium Olefin Sulfonate (C14-16)	None Established	None Established	None Established		
Sodium metasilicate	None Established	None Established	None Established		

ENGINEERING CONTROLS:

Provide adequate general and local exhaust ventilation to maintain levels below established exposure limits. Provide eyewash stations and safety showers in locations available to material users if routinely using the product. Provide hand washing facilities for routine use by personnel using the material.

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PERSONAL PROTECTION:

Splash goggles and apron should be worn when pouring this material to avoid contact with the liquid. Hand protection is recommended when there is possible direct contact with the liquid. Glove choice should be appropriate for the chemical blend and the specific activity being performed. NOTE: nitrile gloves are a general purpose glove available in a wide variety of thicknesses and protect against most chemicals. Respiratory protection should be appropriate for acid mist exposure and utilized if ventilation cannot be established to adequately maintain exposure within exposure limits such as might occur when cleaning up spills.

EXPOSURE EVALUATION:

Personal exposure monitoring can be performed by the employer to determine his/her employee exposures to the product during routine use at the facility. It is beyond the responsibility of the product supplier to estimate/determine airborne exposure in a user's facility.

9. PHYSICAL AND CHEMICAL PROPERTIES

Vapor Pressure:	Not Determined	Vapor Density:	Heavier than air
Specific Gravity:	1.05	Evaporation Rate:	Not Determined
Solubility in Water:	Negligible	Freezing Point:	Not Determined
		Odor:	citrus
pH:	<2	Appearance:	blue liquid
Boiling Point:	Not Determined	Physical State:	liquid
Viscosity:	Not Determined	Flammable Range:	Not Determined
Flash Point:	> 164 °F/93 °C	VOC content:	Not Determined

10. STABILITY AND REACTIVITY

GENERAL:

No dangerous reactions known under normal use conditions.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Alkaline materials. Metal containers and glass containers. Maintain product in original containers and verify shelf life of product and container with manufacturer.

HAZARDOUS DECOMPOSITION:

HF can produce flammable hydrogen gas under certain circumstances. Avoid contact with metals.

11. TOXICOLOGICAL INFORMATION

TOXICITY TO ANIMALS:

<u>Component</u>	<u>Acute Test</u>	<u>Value</u>	<u>Species</u>
Phosphoric Acid	LD50 oral	2600 mg/kg	Rat
Phosphoric Acid	LD50 dermal	2740 mg/kg	Rabbit
Phosphoric Acid	LC50 inhalation	850 mg/kg-1hr	Rat
Hydrofluoric Acid	LC50 inhalation	2240 - 2340 ppm - 1 hr	Rat
Hydrofluoric Acid	LD100 oral	80 mg/kg	Guinea Pig
Hydrofluoric Acid	LD50 intraperitonea	400 mg/kg	Rat
Sodium Olefin Sulfonate (C14-C16)	LD50 dermal	>2000 mg/kg	Rabbit
Sodium Olefin Sulfonate (C14-C16)	LD50 oral	>2000 mg/kg	Rat

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Sodium metasilicate pentahydrate	LD50 oral	1152 - 1349 mg/kg	Rat
Ethoxylated Alcohols	LD50 dermal	1000 - 2000 mg/kg	Rat
Ethoxylated Alcohols	LD50 oral	1000 - 2000 mg/kg	Rat

ROUTES OF ENTRY:

Normal use routes of entry include eye, skin, and respiratory tract.

CHRONIC EFFECTS ON HUMANS:

Eyes:

Contains multiple serious eye irritants and is corrosive with low pH. The combination of surfactants and acids increases the potential for damage to the eye if not immediately washed out.

Skin:

HF component is an inorganic acid that is highly corrosive and readily penetrates the skin causing deep tissue layer destruction. Concentrations of 7% have been shown to produce delayed effects of up to 1 hour after exposure. Concentrations less than 1% over the entire body has shown long term health effects.

Ingestion:

Product is expected to be corrosive to the digestive system if a sufficient quantity is ingested. Small quantities are not as serious, however, the product contains fluoride ion which can reduce serum calcium levels resulting in symptoms of hypocalcemia.

Inhalation:

Acid concentrations are not sufficient to present a vapor hazard. Inhalation as a mist can be corrosive to the nose and respiratory system. These effects may not be reversible depending on the amount inhaled.

12. ECOLOGICAL INFORMATION

<u>Species</u>	<u>Test Information</u>	<u>Concentration</u>	<u>Component</u>
Freshwater Fish	LC50 - 96hr	98-106 mg/L	Phosphoric Acid
Water Flea	EC50 - 48 hr	>100 mg/L	Phosphoric Acid
Algae	EC50 - 72 hr	42.3 mg/l	Sodium Olefin Sulfonate (C14-16)
Crustacea	EC50 - 48 hr	4.48 mg/l	Sodium Olefin Sulfonate (C14-16)
Fish	LC50 - 96 hr	2.6 mg/l	Sodium Olefin Sulfonate (C14-16)
Fish	EC50 - 48 hr	270 mg/l	Hydrofluoric Acid
Fish	LC50 - 96 hr	>0.1 - 1 mg/l	Ethoxylated Alcohol
Daphnia	EC50 - 72 hr	>0.1 - 1 mg/l	Ethoxylated Alcohol
Green Algae	EC50 - 72 hr	>0.1 - 1 mg/l	Ethoxylated Alcohol

PRODUCTS OF BIODEGRADATION:

Components readily biodegrade and products of biodegradation are less toxic than the chemicals, themselves. Phosphate component will provide nutrition to plant material in a water body.

13. DISPOSAL CONSIDERATIONS

Dispose of any waste in compliance with local, state, and federal regulations. Determine EPA RCRA waste categorization at the time of disposal as mixing with other materials may change its categorization. Containers may contain residue that needs to be addressed at time of disposal. Recycling containers needs to address any remaining residues. Product is corrosive based on pH but can be neutralized for disposal.

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14. TRANSPORT INFORMATION

The following proper shipping name, hazard class and packing group are in accordance to 49 CFR Department of Transportation (U.S. DOT) regulatory requirements from 172.101 Hazardous Materials Table

49 CFR Shipping Information	Dakota Brite Plus MX
Symbols	"G" - identifies proper shipping names for which one or more technical names of the hazardous material must be entered in parantheses, in association with the basic description. See 172.203(k)
UN Number	NA
Proper Shipping Name	NA
Hazard Class	NA
Packing Group	NA
Label Codes	NA
Special Provisions (172.102)	NA
Packaging - Exceptions	NA
Packaging - Nonbulk	NA
Packaging - bulk	NA
Quantity Limitations - Passenger aircraft/rail	NA
Quantity Limitations - Cargo aircraft only	NA
Vessel stowage - Location	NA
Vessel stowage - Other	NA

INTERNATIONAL AIR TRADE ASSOCIATION (IATA)

IATA 58th Edition Information	Dakota Brite Plus MX
UN Number	*
Proper Shipping Name Description	
Class or Division	
Hazard Label(s)	
Packing Group	
EQ - 2.6 Dangerous Goods in Excepted Quantities	
Passenger Aircraft - Limited Quantity Packing Instructions	
Passenger Aircraft - Limited Quantity Max net Qty/Pkg	
Passenger Aircraft - Packing Instructions	
Passenger Aircraft - Quantity Max Net Qty/Pkging	
Cargo Aircraft only - Packing Instructions	
Cargo Aircraft only - Max Net Qty/Pkging	
Special Provisions 4.4	
ERG Code	

INTERNATIONAL MARITIME DANGEROUS GOODS CODE (IMDG CODE)

IMDG 2016 EDITION	Dakota Brite Plus MX
UN Number	*
Proper Shipping Name Description	
Class or Division	
Subsidiary Risks	
Packing Group	
Special Provisions	
Limited Quantities	
Excepted Quantities	
Packing Instructions	

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Packing Provisions	
IBC Instructions 4.1.4	
IBC Provisions 4.1.4	
Portable tanks and bulk containers - tank instructions	
Portable tanks and bulk containers - provisions	
EmS	
Stowage and Handling	
Segregation	
Properties and observations	

* - verify shipping requirements. May require shipping as UN1790.

15. REGULATORY INFORMATION

Chemical Inventory Status

Ingredients listed on: TSCA, DSL, Japan, and EC inventories.

SARA Section 302 - Emergency Planning Notification -

Hydrofluoric acid, Phosphoric Acid

SARA Section 304 - Emergency Release Notification -

Hydrofluoric acid, Phosphoric Acid

SARA 311/312 - Hazard categories for SARA Section 311/312 Reporting -

Acute, Chronic health hazard

CERCLA - Hazardous Substance -

RCRA Hazardous Waste Classification -

Corrosive

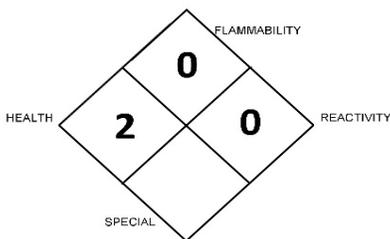
California Proposition 65:

No ingredients listed.

16. OTHER INFORMATION

UNITED STATES NATIONAL FIRE PROTECTION ASSOCIATION (U.S. NFPA)

NFPA 704 "fire diamond" is used by emergency personnel to quickly identify the risks posed by the material during response to a fire or a spill or other unusual event.



NFPA rating explanation as applied to Dakota Brite Plus

FLAMMABILITY 0 - Materials that will not burn under typical fire conditions including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820⁰C/1500⁰F for a period of 5 minutes

HEALTH 2 - Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury.

REACTIVITY 0 - Normally stable, even under fire exposure conditions, and is not reactive with water.

SPECIAL - contains special symbols applicable to the material. In this case there are no applicable special conditions.

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CREATION/REVISION SUMMARY:

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October 16, 2000; product formulation changes
and update to GHS format - February 14, 2020

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