SAFETY DATA SHEET

BioKlyn™ Plus

Version	Revision Date:	SDS Number:	Date of previous issue: -
1.0	09/13/2018	103000008493	Country / Language: US / EN

SECTION 1. IDENTIFICATION

Product name	:	BioKlyn™ Plus
Material number	:	57804625
Recommended use	:	Cleaning agent

Manufacturer or supplier's details

Supplier	:	LANXESS Corporation Product Safety & Regulatory Affairs 111 RIDC Park West Drive PittsburghPA 15275-1112 USA
Telephone	:	+1800LANXESS +14128091000 (international)
Emergency telephone	:	CHEMTREC (800) 424 9300 International (703) 527 3887 Lanxess Emergency Phone (800) 410-3063

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion	:	Category 1
Serious eye damage	:	Category 1
Skin sensitization	:	Category 1
Specific target organ system-ic toxicity - single exposure (Inhalation)	:	Category 1 (Respiratory Tract)

GHS label elements

Hazard pictograms :

Signal Word	:	Danger
Hazard Statements	:	Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes damage to organs (Respiratory Tract) if inhaled.
Precautionary Statements	:	**Prevention:** Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.

Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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/doctor.
IF exposed: Call a POISON CENTER or doctor/ physician.
If skin irritation or rash occurs: Get medical advice/ attention.
Wash contaminated clothing before reuse.

Storage:

Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Hazard Not Otherwise Classified (HNOC)

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Solution of sodium hydroxide in water., and, Sodium salts

Hazardous ingredients

Chemical name	CAS-No.	Concentration (% w/w)
Sodium hydroxide	1310-73-2	>= 5 - < 10
Tetrasodium ethylene diamine tetraacetate	64-02-8	>= 3 - < 5
Ethoxylated branched C9-11, C10-rich alcohols	78330-20-8	>= 1 - < 3
Coconut oil amidopropyl betaine	61789-40-0	>= 1 - < 5

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

SECTION 4. FIRST AID MEASURES

If inhaled : Get medical attention immediately.
Call a physician or poison control center immediately.
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 irregulor or respiratory arrest occurs, provide artifical respiration, or oxygen by a trained professional, using a pocket type respirator.
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 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.

In case of skin contact : Get medical attention immediately.
Call a physician immediately.
Immediately flush skin with large amounts of water.
Remove contaminated clothing and shoes.
Continue to rinse for at least 10 minutes.
Chemical burns must be treated promptly by a physician.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
In the event of any complaints or symptoms, avoid further exposure.

In case of eye contact : Get medical attention immediately.
Call a physician.
Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids.
Remove contact lenses.
Continue to rinse for at least 10 minutes.
Chemical burns must be treated promptly by a physician.

If swallowed : Get medical attention immediately.
Call a physician immediately.
Remove victim to fresh air and keep at rest in a position comfortable for breathing.
If conscious, drink plenty of water.
Stop if the exposed person feels sick as vomiting may be dangerous.
Do not induce vomiting unless directed to do 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 open airway.
Loosen tight clothing such as a collar, tie, belt or waistband.
Rinse mouth with water.

Most important symptoms and effects, both acute and delayed

Symptoms	:	Eye: Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage. Skin: Reddening, burning, and possible permanent damage. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. Inhalation: Causes respiratory tract burns. Burns to the respiratory tract can cause swelling that could require a tracheotomy. Pulmonary edema may be delayed for several hours up to several days. Many hydrofluoric acid fatalities have been due to severe pulmonary edema. Toxic effects can also include depletion of calcium in the body, which can result in death if not treated.
Effects	:	May cause an allergic skin reaction. Causes serious eye damage. Causes damage to organs if inhaled. Causes severe burns.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. In case of fire, use water spray (fog), foam, dry chemical or CO_2.
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	:	Metal oxides Carbon dioxide (CO2) Carbon monoxide Nitrogen oxides (NOx) Halogenated compounds
Further information	:	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. If potential for exposure exists refer to Section 8 for specific personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	No action shall be taken involving any personal risk or without suitable training. Evacuate personnel to safe areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapors or spray mist. Provide adequate ventilation. Put on appropriate personal protection equipment.
Environmental precautions	:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Move containers from spill area. Wash spillages into an effluent treatment plant or proceed as follows. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Dispose of wastes in an approved waste disposal facility. Do not allow into the sewerage system, surface waters or groundwater or into the soil. Keep people away from and upwind of spill/leak.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Put on appropriate personal protection equipment. 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. Do not get on skin or clothing. Do not breathe vapors or spray mist. 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; observe all precautions for product. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Conditions for safe storage	:	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 containers 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.
Do not store near acids.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Hazardous components without workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Sodium hydroxide	1310-73-2	C	2 mg/m3	ACGIH
		TWA	2 mg/m3	OSHA Z-1

Hazardous components without workplace control parameters

Components	CAS-No.
Tetrasodium ethylene diamine tetraacetate	64-02-8
Ethoxylated branched C9-11, C10-rich alcohols	78330-20-8
Coconut oil amidopropyl betaine	61789-40-0

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
A NIOSH approved air purifying respirator with organic vapor cartridges and particulate prefilter can be used to minimize exposure.

Hand protection
Material : Permeation resistant gloves.

Eye protection : Chemical resistant goggles must be worn.
If inhalation hazards exist, a full-face respirator may be required instead.

Skin and body protection : Permeation resistant clothing and foot protection.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

Appearance	:	Liquid, viscous
Color	:	blue
Odor	:	strong, aliphatic
Odor Threshold	:	No data available
pH	:	13 - 14
Melting point/range	:	32 °F (0 °C)
Boiling point/boiling range	:	212 °F (100 °C) (1,013 hPa)
Flash point	:	> 199 °F (> 93 °C) Method: Pensky-Martens., closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit	:	No data available
Vapor pressure	:	21.33 hPa (77 °F (25 °C))
Relative vapor density	:	No data available
Relative density	:	1.13
Density	:	1.12 - 1.14 g/cm³ (68 °F (20 °C))
Solubility(ies)	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Metal corrosion rate	:	Not corrosive to metals.

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 chemically stable.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	No specific data.
Incompatible materials	:	Incompatible with acids and bases.
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

The most important known symptoms and effects are described in Section 2 and/or Section 4.

Information on likely routes of exposure

Inhalation
Eye contact
Skin contact
Ingestion

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: > 200 mg/l Exposure time: 4 h Test atmosphere: vapor Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Components:

Tetrasodium ethylene diamine tetraacetate:

Acute oral toxicity	:	LD50 (Rat): 1,658 mg/kg
Acute inhalation toxicity	:	Assessment: The component/mixture is moderately toxic after short term inhalation.

Ethoxylated branched C9-11, C10-rich alcohols:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Coconut oil amidopropyl betaine:

Acute oral toxicity : LD50 (Rat): 1,500 mg/kg

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Skin corrosion/irritation

Causes severe burns.

Product:

Result: Corrosive after 4 hours or less of exposure

Components:

Sodium hydroxide:

Species: Rabbit
Result: Causes severe burns.

Tetrasodium ethylene diamine tetraacetate:

Species: Rabbit
Result: No skin irritation

Coconut oil amidopropyl betaine:

Remarks: Irritant

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Result: Corrosive

Components:

Sodium hydroxide:

Species: Rabbit
Result: Risk of serious damage to eyes.

Tetrasodium ethylene diamine tetraacetate:

Species: Rabbit
Result: Risk of serious damage to eyes.
Method: OECD Test Guideline 405

Ethoxylated branched C9-11, C10-rich alcohols:

Result: Risk of serious damage to eyes.

Coconut oil amidopropyl betaine:

Remarks: Irritant

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Components:

Tetrasodium ethylene diamine tetraacetate:

Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Did not cause sensitization on laboratory animals.

Coconut oil amidopropyl betaine:

Routes of exposure: Skin contact
Result: The product is a skin sensitiser, sub-category 1B.

Remarks: Sensitizing

Germ cell mutagenicity

Not classified based on available information.

Components:

Sodium hydroxide:

Genotoxicity in vitro	:	Test system: Bacteria Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative
Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mammalian-Animal Application Route: Intraperitoneal Result: negative

Tetrasodium ethylene diamine tetraacetate:

Genotoxicity in vitro	:	Test Type: Ames test Test system: Bacteria Metabolic activation: with and without metabolic activation Result: negative

Carcinogenicity

Not classified based on available information.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed

human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

Causes damage to organs (Respiratory Tract) if inhaled.

Product:

Routes of exposure: Inhalation
Target Organs: Respiratory Tract
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 1.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Sodium hydroxide:

Toxicity to fish	:	LC50 (Trout): 45.4 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h

Ecotoxicology Assessment

Acute aquatic toxicity	:	This product has no known ecotoxicological effects.
Chronic aquatic toxicity	:	This product has no known ecotoxicological effects.

Tetrasodium ethylene diamine tetraacetate:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 121 mg/l Exposure time: 96 h Remarks: Fresh water
Toxicity to daphnia and other	:	EC50 (Daphnia magna (Water flea)): 610 mg/l

aquatic invertebrates		Exposure time: 24 h Method: ISO 6341 Remarks: Fresh water
Toxicity to algae	:	ErC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Remarks: Fresh water NOEC (Desmodesmus subspicatus (green algae)): 100 mg/l Exposure time: 72 h Remarks: Fresh water
Toxicity to fish (Chronic toxicity)	:	NOEC (Danio rerio (zebra fish)): > 25.7 mg/l Exposure time: 35 Days Method: OECD Test Guideline 210 Remarks: Fresh water
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 25 mg/l Exposure time: 21 Days Method: OECD Test Guideline 211 Remarks: Fresh water

Persistence and degradability

Components:

Sodium hydroxide:

Biodegradability	:	Result: The methods for determining the biological degradability are not applicable to inorganic substances.

Tetrasodium ethylene diamine tetraacetate:

Biodegradability	:	Result: Not readily biodegradable. Biodegradation: 10 % Exposure time: 28 d Method: OECD Test Guideline 302B

Ethoxylated branched C9-11, C10-rich alcohols:

Biodegradability	:	Result: Readily biodegradable.

Bioaccumulative potential

Components:

Tetrasodium ethylene diamine tetraacetate:

Bioaccumulation	:	Bioconcentration factor (BCF): 1.8

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

RCRA - Resource Conservation and Recovery Authorization Act	:	When discarded in its purchased form, this product meets the criteria of corrosivity, and should be managed as a hazardous waste (EPA Hazardous Waste Number D002). (40 CFR 261.20-24)
Disposal methods	:	The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Empty containers retain product residue; observe all precautions for product. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Waste disposal should be in accordance with existing federal, state, provincial and/or local environmental controls.

SECTION 14. TRANSPORT INFORMATION

Domestic regulation

DOT

UN/ID/NA number	:	UN 1824
Proper shipping name	:	Sodium hydroxide solution
Class	:	8
Packing group	:	II
Labels	:	8
	:	
RQ	:	10,905.13 lb
Marine pollutant	:	no

International Regulations

IATA-DGR

UN/ID No.	:	UN 1824
Proper shipping name	:	Sodium hydroxide solution
Class	:	8
Packing group	:	II
Labels	:	8
	:	
Packing instruction (cargo aircraft)	:	855: 30.00 L
Packing instruction (passenger aircraft)	:	851: 1.00 L

Environmentally hazardous no

IMDG-Code

UN number : UN 1824
Proper shipping name : SODIUM HYDROXIDE SOLUTION
Class : 8
Packing group : II
Labels : 8
:

Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

SECTION 15. REGULATORY INFORMATION

CERCLA

None

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization
Specific target organ toxicity (single or repeated exposure)

SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Massachusetts Right To Know

Sodium hydroxide	1310-73-2	>= 7 - < 13
formaldehyde	50-00-0	< 0.01

Pennsylvania Right To Know

Water	7732-18-5	>= 60 - < 100
Sodium hydroxide	1310-73-2	>= 7 - < 13
Tetrasodium ethylene diamine tetraacetate	64-02-8	>= 3 - < 7

California Prop. 65

WARNING: This product can expose you to chemicals including formaldehyde, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

TSCA inventory

TSCA : On TSCA Inventory

TSCA list

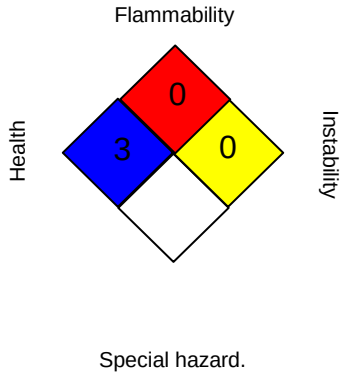
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

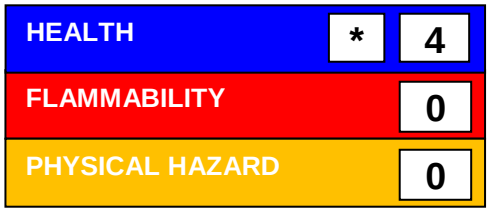
SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

LANXESS' method of hazard communication is comprised of Product Labels and Safety Data Sheets. HMIS and NFPA ratings are provided by LANXESS as a customer service.

Revision Date : 09/13/2018

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