







Section 1. Identification

Product identifier	: Biosolve(TM) Plus
Material Number	: 57804625
Identified uses	: Cleaning agents
Supplier/Manufacturer	: LANXESS Corporation Product Safety & Regulatory Affairs 111 RIDC Park West Drive Pittsburgh, PA 15275-1112
	For Information: US/Canada (800) LANXESS) International: +1 412 809 1000
In case of emergency	: CHEMTREC (800) 424 9300 International (703) 527 3887 Lanxess Emergency Phone: (866) 673 6350

Section 2. Hazard identification

HAZCOM Standard Status	: This material is considered hazardous by the Workplace Hazardous Materials Information System (WHMIS) 2015 requirements as defined in the Hazardous Product Act (HPA) and the Hazardous Products Regulations (HPR).
Physical state	: Liquid.
Color	: Blue.
Classification of the substance or mixture	:  SKIN CORROSION - Category 1 SERIOUS EYE DAMAGE - Category 1
Hazard pictograms	: 
Signal word	: Danger
Hazard statements	:  Causes severe skin burns and eye damage.
Precautionary statements	
Prevention	:  Wear protective gloves/clothing and eye/face protection. Wash hands thoroughly after handling.
Response	:  IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Storage	: Store locked up.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	:  Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink.
Ingredients of unknown toxicity	: Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 10.3%

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	% (w/w)	CAS number
Sodium hydroxide	≤10	1310-73-2
Tetrasodium ethylene diamine tetraacetate	≤5	64-02-8
Cocoamphoacetate, sodium salt	≤5	68608-65-1
Coconut oil amidopropyl betaine	≤5	61789-40-0
D-Glucopyranose, oligomeric, C10-16-alkyl glycosides	≤2.9	110615-47-9

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

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of first aid measures

- Eye contact** : Get medical attention immediately. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. In case of contact with eyes, flush eyes with plenty of water for at least 30 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If unconscious, place in recovery position and get medical attention immediately. Maintain an 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. If not breathing, if breathing is irregular or respiratory arrest occurs, provide artificial respiration, or oxygen by a trained professional, using a pocket type respirator.
- Skin contact** : In case of contact, flush skin with plenty of water for at least 30 minutes. Get medical attention immediately. Immediately remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so 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 an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.
- Skin contact** : Causes severe burns.
- Ingestion** : May cause burns to mouth, throat and stomach.

Section 4. First-aid measures

Over-exposure signs/symptoms

- Eye contact** : Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage.
- Inhalation** : No specific data.
- Skin contact** : Corrosive with symptoms of reddening, itching, swelling, burning and possible permanent damage.
- Ingestion** : Corrosive with symptoms of coughing, burning, ulceration, and pain.

Potential chronic health effects

No known significant effects or critical hazards.

- Notes to physician** : 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.
- Protection of first-aiders** : If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. No special measures required.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire. In case of fire, use water spray (fog), foam or dry chemical.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst. Toxic and irritating gases/fumes may be given off during burning or thermal decomposition. Water runoff from fire fighting may be corrosive.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds
metal oxide/oxides

- Special protective actions for fire-fighters** : 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.

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 surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Section 6. Accidental release measures

Methods and materials for containment and cleaning up : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal. Prevent entry into sewers, water courses, basements or confined areas.

Section 7. Handling and storage


Precautions for safe handling

Protective measures :  Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container. Remove contaminated clothing and protective equipment before entering eating areas. Workers should wash hands and face before eating, drinking and smoking. Put on appropriate personal protection equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

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. Separate from acids. Keep container tightly closed and 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. Use appropriate containment to avoid environmental contamination. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Exposure limits
 Sodium hydroxide	ACGIH TLV (United States, 3/2016). C: 2 mg/m ³ OSHA PEL (United States, 6/2016). TWA: 2 mg/m ³ 8 hours.

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

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.
Skin protection	: Permeation resistant clothing and foot protection. Permeation resistant gloves.
Eye/face protection	: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. If contact with product is possible, wear safety glasses with side shields.
Medical Surveillance	: Not available.

Section 9. Physical and chemical properties

Physical state	: Liquid. [Viscous liquid.]
Color	: Blue.
Odor	: Strong Aliphatic.
Odor threshold	: Not available.
pH	: 13 to 14
Boiling point	: 100 °C (1013 hPa)
Melting point	: 0°C (32°F)
Flash point	: Closed cup: >93°C (>199.4°F) [Pensky-Martens.]
Evaporation rate	: Not available.
Explosion limits	: Not available.
Vapor pressure	: 1013.33 hPa (100°C)
Density	: 1.12 to 1.14 g/cm ³
Specific gravity (Relative density)	: 1.13
Solubility in water	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Vapor density	: Not available.
Viscosity	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.

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 stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: acids
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on the likely routes of exposure : ☒ Dermal contact. Eye contact.

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.
- Skin contact** : Causes severe burns.
- Ingestion** : ☒ May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage.
- Inhalation** : ☒ No specific data.
- Skin contact** : Corrosive with symptoms of reddening, itching, swelling, burning and possible permanent damage.
- Ingestion** : Corrosive with symptoms of coughing, burning, ulceration, and pain.

Potential chronic health effects

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.
- General** : ☒ No known significant effects or critical hazards.
- Carcinogenicity** : ☒ No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	Test
<input checked="" type="checkbox"/> Tetrasodium ethylene diamine tetraacetate	LD50 Oral	Rat	1658 mg/kg	-	-
Coconut oil amidopropyl betaine	LD50 Oral	Rat	1500 mg/kg	-	-
D-Glucopyranose, oligomeric, C10-16-alkyl glycosides	LD50 Oral	Rat	>5000 mg/kg	-	-
<input checked="" type="checkbox"/> Coconut oil amidopropyl betaine	LD50 Dermal	Rat	>2000 mg/kg	-	-
D-Glucopyranose, oligomeric, C10-16-alkyl glycosides	LD50 Dermal	Rabbit	>2000 mg/kg *	-	-

Conclusion/Summary : ☒ D-Glucopyranose, oligomeric, C10-16-alkyl glycosides:* Dosage caused no mortality

Irritation/Corrosion

Conclusion/Summary

Skin :

Section 11. Toxicological information

☒ Sodium hydroxide:corrosive , Rabbit
 Tetrasodium ethylene diamine tetraacetate:Non-irritating (Rabbit)
 Cocoamphoacetate, sodium salt:Slight irritant
 Coconut oil amidopropyl betaine:Irritant
 D-Glucopyranose, oligomeric, C10-16-alkyl glycosides:Severe irritant

Eyes

☒ Sodium hydroxide:Risk of serious damage to eyes. , Rabbit
 Tetrasodium ethylene diamine tetraacetate:OECD405: Risk of serious damage to eyes.
 Cocoamphoacetate, sodium salt:Causes serious eye damage.
 Coconut oil amidopropyl betaine:Irritant
 D-Glucopyranose, oligomeric, C10-16-alkyl glycosides:corrosive

Sensitization

Product/ingredient name	Route of exposure	Species	Result
<input checked="" type="checkbox"/> Tetrasodium ethylene diamine tetraacetate	skin	Guinea pig	Not sensitizing

Conclusion/Summary

Skin

☒ Coconut oil amidopropyl betaine:sensitizer
 D-Glucopyranose, oligomeric, C10-16-alkyl glycosides:Not sensitizing

Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<input checked="" type="checkbox"/> Tetrasodium ethylene diamine tetraacetate	Chronic NOAEL Oral	Dog	250 mg/kg	-
	Sub-chronic NOAEL Oral	Rat - Male	>500 mg/kg bw/day	daily
	Sub-acute LOAEL Inhalation Dusts and mists	Rat	30 mg/m ³	28 days; 6 hours per day
	Sub-chronic NOAEC Inhalation Dusts and mists	Rat	15 mg/m ³	13 weeks
	D-Glucopyranose, oligomeric, C10-16-alkyl glycosides Sub-acute NOAEL Oral	Rat	1000 mg/kg	-

Mutagenicity

Product/ingredient name	Test	Experiment	Result
<input checked="" type="checkbox"/> Tetrasodium ethylene diamine tetraacetate	Ames test	Experiment: In vitro Subject: Bacteria Metabolic activation: +/-	Negative

Carcinogenicity

Product/ingredient name	CAS #	IARC	NTP	OSHA
<input checked="" type="checkbox"/> Sodium hydroxide	1310-73-2	Not classified.	Not classified.	Not classified.
Tetrasodium ethylene diamine tetraacetate	64-02-8	Not classified.	Not classified.	Not classified.
Cocoamphoacetate, sodium salt	68608-65-1	Not classified.	Not classified.	Not classified.
Coconut oil amidopropyl betaine	61789-40-0	Not classified.	Not classified.	Not classified.
D-Glucopyranose, oligomeric, C10-16-alkyl glycosides	110615-47-9	Not classified.	Not classified.	Not classified.

Specific target organ toxicity (single exposure)

Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
Tetrasodium ethylene diamine tetraacetate	Category 3	Not applicable.	Respiratory tract irritation
Coconut oil amidopropyl betaine	Category 3	Not applicable.	Respiratory tract irritation
D-Glucopyranose, oligomeric, C10-16-alkyl glycosides	Category 3	Not applicable.	Respiratory tract irritation

Acute toxicity estimates

Route	ATE value (Acute Toxicity Estimates)
Oral	25382.9 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Test	Result	Species	Exposure
Sodium hydroxide	-	Acute EC50 >100 mg/l	Daphnia - Daphnia magna	48 hours
Tetrasodium ethylene diamine tetraacetate	-	Acute LC50 45.4 mg/l	Fish - Trout	96 hours
	ISO 6341 15 (Water quality - Determination of the Inhibition of the Mobility of Daphnia magna Straus (Cladocera, Crustacea))	Acute EC50 610 mg/l Fresh water	Daphnia - Daphnia magna	24 hours
	-	Acute IC50 >100 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	-	Acute LC50 121 mg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	-	Chronic NOEC 100 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	OECD 211 <i>Daphnia Magna</i> Reproduction Test	Chronic NOEC 25 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	OECD 210 Fish, Early-Life Stage Toxicity Test	Chronic NOEC >25.7 mg/l Fresh water	Fish - Danio rerio	35 days
D-Glucopyranose, oligomeric, C10-16-alkyl glycosides	-	Acute EC50 7 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 6.25 mg/l Marine water	Crustaceans - Acartia tonsa	48 hours
	-	Acute LC50 2.95 mg/l Fresh water	Fish	96 hours
	-	Chronic EC10 1.76 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	-	Chronic LC50 3.2 mg/l Fresh water	Fish	28 days

Persistence and degradability

Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
Tetrasodium ethylene diamine tetraacetate	OECD 302B Inherent Biodegradability: Zahn-Wellens/ EMPA Test	10 % - Not readily - 28 days	-	-
Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability	
Tetrasodium ethylene diamine tetraacetate	-	-	Not readily	

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Tetrasodium ethylene diamine tetraacetate	-13	1.8	low

Mobility in soil


Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.



Section 13. Disposal considerations

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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. 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 laws.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
TDG Classification	UN1824	SODIUM HYDROXIDE SOLUTION	8	II		<u>Explosive Limit and Limited Quantity Index</u> 1 <u>Passenger Carrying Road or Rail Index</u> 1 <u>Remarks</u> Product classified per Transportation of Dangerous Goods Regulations sections 2.40-2.42 (Class 8)

Section 14. Transport information

IMDG Class	UN1824	SODIUM HYDROXIDE SOLUTION	8	II		Emergency schedules (EmS) F-A, S-B
IATA-DGR Class	UN1824	SODIUM HYDROXIDE SOLUTION	8	II		Passenger aircraft 851: 1 L Cargo aircraft 855: 30 L

PG* : Packing group

Section 15. Regulatory information

CEPA Status : All components of this product are on the Canadian DSL list.

U.S. Toxic Substances Control Act : Listed on the TSCA Inventory.

Hazardous Material Information System :

Health	3
Flammability	0
Physical hazards	0

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme *=Chronic

National Fire Protection Association (U.S.A.) :



0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

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

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Section 16. Other information

Date of issue : 04-03-2017

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Version : 1.02

Prepared by : Product Safety and Regulatory Affairs

 Indicates information that has changed from previously issued version.

[Notice to reader](#)

Section 16. Other information

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