

# SAFETY DATA SHEET

## Nutrisulfate® Liquid



Revision date: 2019-06-17  
Version 1.0

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### **Product Identifier**

Product Name: Nutrisulfate® Liquid

Synonyms: Sulfate-Enhanced Remediation Product

Product Form: Mixture

#### **Recommended use of the chemical and restrictions on use**

Recommended Use: Remediation of contaminated groundwater and soils.

Restrictions on Use: Use as recommended by the label

#### **Details of the supplier and of the safety data sheet**

Supplier: Tersus Environmental, LLC  
1116 Colonial Club Rd  
Wake Forest, NC 27587  
Phone: +1-919-453-5577  
Email: [info@tersusenv.com](mailto:info@tersusenv.com)

Contact Person: David F. Alden  
Phone: +1-919-453-5577 x2002  
Email: [david.alden@tersusenv.com](mailto:david.alden@tersusenv.com)

#### **Emergency telephone number**

For leak, fire, spill or accident emergencies, call:

+1-919-453-5577 (Tersus Office Hours, 8:00 AM to 5:00 PM Eastern)  
+1-800-424-9300 (Chemtrec 24 Hour Service – Emergency Only)  
+1-703-527-3887 (Chemtrec Outside United States 24 Hour Service – Emergency Only)  
+1-919-638-7892 Gary M. Birk (Outside office hours)

### 2. HAZARD IDENTIFICATION

#### **Relevant identified uses of the substance or mixture**

This product is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin Sens. 1; H317 May cause an allergic skin reaction.

#### **Label elements**

**Signal word** Not classified

**Hazard statement** Not classified in accordance with international standards for workplace safety.

**Precautionary statement****Prevention**

P261 Avoid breathing dust / fume / gas / mist / vapors / spray.  
 P272 Contaminated work clothing should not be allowed out of the workplace.  
 P280 Wear protective gloves / eye protection / face protection.

**Response**

P302+352 IF ON SKIN: Wash with plenty of soap and water.  
 P313 Get medical advice / attention.  
 P321 Specific treatment (see information on this label).  
 P333+313 If skin irritation or a rash occurs: Get medical advice / attention.  
 P363 Wash contaminated clothing before reuse.

**Storage**

No GHS storage statements

**Disposal**

P501 Dispose of contents / container in accordance with local / national regulations.

**Other hazards**

None known.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical Formula**

Mixture

**Hazardous components**

Chemical Name	CAS Number	Concentration (%)	GHS Classification	Notes
Magnesium sulfate	0007487-88-9	10 – 30	Skin Sens. 1;H317	[1]
Nutrimens® Liquid, Yeast Fermentation Product	Proprietary	0 - 5		
Diammonium phosphate	7783-28-0	0 – 5	Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H335	[1]
Water		Balance		

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

\*The full texts of the phrases are shown in Section 16.

Synonyms are provided in Section 1.

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

### 4. FIRST AID MEASURES

**General Information**

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. Give psychological aid. Keep the victim calm, avoid physical strain. Take victim to a doctor if irritation persists.

Remove affected person from source of contamination.

Eye Contact	Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.
Skin Contact	May cause an allergic skin reaction. Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.
Inhalation	If inhaled: remove person to fresh air. Seek medical attention if you feel unwell. Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
Ingestion	If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.
Most important symptoms and effects, both acute and delayed	Eye contact: Causes mild irritation to the eyes. Inhalation: Causes nausea, vomiting, abdominal cramps, and diarrhea. Ingestion: Causes nausea, vomiting, abdominal cramps, and diarrhea. Medical Conditions Generally Aggravated by Exposure: None known for this product. Over exposure to carbon dioxide may aggravate certain medical conditions. Chronic hazards: No known chronic hazards. Not listed by NTP, IARC or OSHA as a carcinogen. Physical hazards: Spilled material can be slippery
Indication of any immediate medical attention and special treatment needed	If exposed or concerned, get medical advice and attention.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Liquid product. Product will not burn.
<b>Specific Hazards Arising from the chemical or mixture</b>	Hazardous decomposition: No hazardous decomposition data available. Avoid breathing dust / fume / gas / mist / vapors / spray.
<b>Special Fire Fighting Procedures</b>	Liquid product. Product will not burn.  ERG Guide No. 140

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Provide enough ventilation. Advice for emergency responders: protective equipment see Section 8. Wear protective clothing as described in Section 8 of this safety data sheet. Do not smoke or use open fire or other sources of ignition. Contact with walking surface may result in formation of slippery film/falling hazard.
<b>First Aid:</b>	In case of contact with skin, wash with soap and water. If symptoms occur, seek medical attention. In case of contact with eyes, rinse with plenty of water for at least 15 minutes and see an eye specialist if irritation persists. In case of inhalation, remove to fresh air. In case of ingestion, drink water. If symptoms occur, seek medical assistance.
<b>Environmental Precautions</b>	Do not discharge into drains, sewers or watercourses or onto the

**Methods for Containment and Clean Up**

ground. Inform the relevant authorities if this occurs. Spilled product should be removed immediately. Avoid contamination of waterways and (if large quantity) vegetation.

Spilled product should be removed immediately. Avoid contamination of waterways and (if large quantity) vegetation. Absorb in non-combustible material, vermiculite, dry sand or earth and place into containers.

**7. HANDLING AND STORAGE****Precautions for safe handling**

Store this product in a cool, dry, well ventilated environment. Keep container tightly closed. Use local exhaust and ventilation during handling.

**Hygiene measures**

Handle in accordance with good industrial hygiene and safety procedures. Use good personal hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Keep containers closed. Recommended storage temperature 50°-120°F.

**8. EXPOSURE CONTROL / PERSONAL PROTECTION****Control parameters**

Exposure guidelines, ingredients with workplace control parameters.

Name	CAS-No	OSHA	ACGIH	NIOSH	Supplier
Magnesium sulfate	0007487-88-9	No Established Limit	No Established Limit	No Established Limit	No Established Limit
Yeast Fermentation Product	Proprietary				
Diammonium Phosphate	7783-28-0	PEL (TWA) (mg/m <sup>3</sup> )15 mg/m <sup>3</sup> – particulate 5 mg/m <sup>3</sup> – respirable	TWA 10 mg/m <sup>3</sup> – inhalable fraction 3 mg/m <sup>3</sup> – respirable fraction (mg/m <sup>3</sup> )		

**Carcinogen Data**

Name	CAS-No	OSHA	NTP	IARC
Magnesium sulfate	0007487-88-9	Select Carcinogen: No	Known: No; Suspected: No	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No
Yeast Fermentation Product	Proprietary	Select Carcinogen: No	Known: No; Suspected: No	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No
Diammonium Phosphate	7783-28-0			

**Exposure Control****Protective equipment****Appropriate engineering controls**

Provide adequate ventilation. Where reasonably practicable this should be achieved using local exhaust ventilation and good general extraction. If these are not enough to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

**Eye/face protection**

The following protection should be worn: Safety glasses with shields, chemical splash goggles or face shield.

**Respiratory protection**

Confined spaces that held yeast fermentation product could potentially contain carbon dioxide gas. Use NIOSH/MSHA approved self-contained breathing apparatus or supplied respirator if oxygen content below 19%. Use in accordance with 29 CFR 1901.134.

**Hand protection**

Neoprene. Vinyl, Rubber (natural, latex), Butyl rubber. Wear protective gloves made of the following material: Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. Polyvinyl chloride (PVC). Manufactured/tested in accordance with EN 374, Avoid the following conditions: Polyvinyl alcohol (PVA).

**Other skin and body protection**

Wear appropriate clothing to prevent any possibility of skin contact.

**Hygiene measures**

Wash promptly if skin becomes contaminated. Wash hands at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke.

<b>9. PHYSICAL AND CHEMICAL PROPERTIES</b>
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**Information on basic physical and chemical properties**

Appearance	Brown liquid
Odor	Fermented, yeasty aroma
Odor threshold	Information Not Available
pH	Not measured
Melting point /Freezing Point	Unknown
Initial Boiling point and boiling point range	212 °F
Flash Point	Unknown
Evaporation rate	Unknown
Flammability (solid; gas)	Unknown
Upper/lower flammability or explosive limits	Unknown
Vapor pressure	Unknown
Vapor density	Unknown
Relative density	Varies by concentration & temperature
Solubility (ies)	Soluble

Partition coefficient: n-octanol/water	Unknown
Initial Boiling point and boiling point range	Unknown
Auto-ignition temperature	Unknown
Decomposition temperature	Unknown
Viscosity	Unknown

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	Stable under normal conditions and use.
<b>Chemical stability</b>	Stable under normal circumstances.
<b>Possibility of hazardous reactions</b>	Information not available.
<b>Conditions to avoid</b>	Information not available.
<b>Incompatible materials</b>	Information not available.
<b>Hazardous decomposition products</b>	Information not available.
<b>Hazardous Polymerization</b>	Hazardous polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

### **Acute Toxicity**

When tested for primary irritation potential, a similar material caused mild eye irritation. RTECS reports the following data for magnesium sulphate:  
Oral TDLo= 428 mg/kg in man 351 mg/kg in women.

### **Persistence and degradability**

There is no data available on the preparation itself.

### **Bioaccumulative potential**

Not Measured

### **Mobility in soil**

No data available.

### **Results of PBT and vPvB assessment**

This product contains no PBT/vPvB chemicals.

### **Other adverse effects**

No data available.

## 12. ECOLOGICAL INFORMATION

### **Ecotoxicity**

Information Not Available

### **Chemical Fate Information**

Information Not Available

### **Environmental Fate**

This material is not persistent in aquatic systems and does not contribute to BOD. It does not bioconcentrate up the food chain.

**Physical/Chemical**

Sinks and mixes with water.

**Biodegradability**

Readily degradable.

**13. DISPOSAL CONSIDERATIONS****Waste Disposal Methods**

Waste material is not a hazardous waste. Dispose in accordance with federal, provincial and local regulations.

**14. TRANSPORTATION INFORMATION****U.S. (D.O.T.)**

Proper Shipping Name:	Chemicals not otherwise indexed (NOI) nonhazardous.
Hazard Class:	Not applicable
UN/NA:	Not applicable
Labels:	Not applicable

**Canada (T.D.G.)**

Proper Shipping Name:	Chemicals not otherwise indexed (NOI) nonhazardous.
Hazard Class:	Not applicable
UN/NA:	Not applicable
Labels:	Not applicable

**IMDG**

Proper Shipping Name:	Chemicals not otherwise indexed (NOI) nonhazardous.
Hazard Class:	Not applicable
UN/NA:	Not applicable
Labels:	Not applicable

**IATA**

Proper Shipping Name:	Chemicals not otherwise indexed (NOI) nonhazardous.
Hazard Class:	Not applicable
UN/NA:	Not applicable
Labels:	Not applicable

**15. REGULATORY INFORMATION****TSCA**

No

**WHMIS Classification**

D2B

**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**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**EPCRA 302 Extremely Hazardous**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**EPCRA 313 Toxic Chemicals**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Carcinogens (>0.0%)**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Developmental Toxins (>0.0%)**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Female Repro Toxins (>0.0%)**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Male Repro Toxins (>0.0%)**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**New Jersey RTK Substances (>1%)**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Pennsylvania RTK Substances (>1%)**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**16. OTHER INFORMATION****Full Text of H - Phrases:**

H317 May cause an allergic skin reaction.

Components not precisely identified are proprietary or non-hazardous.

**Disclaimer:** This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. All recommendations for the use of our products, whether given by us, orally or to be implied from data or lab tests results by us, are based on the current state of our knowledge at the time those recommendations are made. When additional information is obtained, these recommendations may be updated. They may also be influenced by circumstances outside our control. Notwithstanding, such recommendation the user is responsible that the product as supplied by us is suitable to the process or purpose he intends to use it. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of this product. Since we cannot control the application, use or processing of the product, we do not accept responsibility. Therefore, the user should assure that the intended use of the product will not infringe in any party's intellectual property right.



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**End of Safety Data Sheet**