

# SAFETY DATA SHEET

## EDS-ER™ EU



Creation Date: 2023-05-31  
Revision Date: 2023-05-31  
Version 1.0  
SDS # 01B

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### **1.1 Product Identifier**

Product Name: EDS-ER™ EU

Synonyms: Electron Donor Solution – Extended Release

Product Form: Mixture

#### **1.2 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.

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

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

#### **1.4 Emergency telephone number**

For leaks, fire, spill, or accident emergencies, call closest Fire Brigade

Supplier contact information:

+1-919-453-5577 (Tersus Office Hours, 8:00 AM to 5:00 PM GMT-5 Eastern US)

+1-919-638-7892 (Outside office hours) or closest Fire Brigade

### 2. HAZARD IDENTIFICATION

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

Product definition	Mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]	Not Classified
Ref. Reg. (EC) no. 1272/2008 (EU-GHS/CLP)	Not classified as hazardous

No applicable GHS categories. This product is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Other hazards** None known.

#### **2.2 Label elements**

**Hazard Pictograms** The product does not require a hazard warning label in accordance with GHS. The normal safety precautions for the handling of chemicals must be observed.

**Signal word** No signal word. Non-regulated material.

**Hazard statement** Not Applicable. Non-regulated material.**Precautionary statement**

<b>General Prevention</b>	Not Applicable. No GHS general statements. Wear protective gloves. Wear protective clothing. Wear eye/face protection.
<b>Response</b>	Not Applicable. No GHS response statements.
<b>Storage</b>	Not Applicable. No GHS storage statements.
<b>Disposal</b>	Not Applicable. No GHS disposal statements.

**Other hazards****Substance Criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII:** No**Substance Criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII:** No**Hazard(s) not otherwise classified (HNOC):** None known**3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substance** Not Applicable**3.2 Mixture****Hazardous components**

Chemical Name	Concentration (%)	CAS Number
None	None	None

**Nonhazardous components**

Chemical Name	Concentration (%)	Product Identifiers
Soybean Oil	90 to 93	CAS: 8001-22-7 N° EC: 232-274-4 REACH: Exempt
Emulsifiers	7 to 10	Proprietary (Polymers) Not Classified

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

**3.3 Description**

Soybean oil. Extractives and their physically modified derivatives. It consists primarily of the glycerides of the fatty acids linoleic, oleic, palmitic, and stearic. (Soja hispida, Leguminosae). Notes: NON-GMO variety, the oil is refined

Synonyms are provided in Section 1.

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

## 4. FIRST AID MEASURES

### 4.1 Description of First Aid Measures

<b>General Information</b>	<p>Check the vital functions. If unconscious place in recovery position and seek medical advice. In case of respiratory arrest, administer artificial respiration. Cardiac arrest, perform resuscitation. Victim conscious with labored breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Take the victim to a doctor if irritation persists.</p> <p>Remove affected person from source of contamination.</p>
<b>Eye Contact</b>	<p>Promptly wash eye with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention. Do not apply (chemical) neutralizing agents. In case of eye irritation consult an ophthalmologist. Remove any contact lenses and open eyelids wide apart.</p>
<b>Skin Contact</b>	<p>Wash off promptly and flush contaminated skin with water. Promptly remove clothing of soaked through and flush skin with water. Get medical attention if irritation persists after washing. Do not apply (chemical) neutralizing agents.</p>
<b>Inhalation</b>	<p>Move the exposed person to fresh air at once. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Perform artificial respiration if breathing has stopped. Keep the affected person warm and at rest. Get prompt medical attention.</p>
<b>Ingestion</b>	<p>Move the exposed person to fresh air at once. Rinse out mouth with water, drink water. Ingestion of large quantities or any symptoms: medical attention is required. Never give anything by mouth if the victim is unconscious. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Perform artificial respiration if breathing has stopped. Keep the affected person warm and at rest. Get prompt medical attention.</p>

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

After skin contact	Generally, no significant symptoms/injuries
After eye contact	Inflammation of eye tissues, strong tearing
After Inhalation	Sore throat, cough. Irritation of the respiratory tract
After ingestion	Nausea, vomit, diarrhea

### 4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled
Specific treatments	No specific treatment

## 5. FIRE-FIGHTING MEASURES

### 5.1 Suitable Extinguishing Media

Alcohol resistant foam. Carbon dioxide (CO<sub>2</sub>). Dry chemicals, sand, dolomite, etc. Water spray

### Unsuitable Extinguishing Media

Direct water jet

### 5.2 Specific Hazards Arising from the chemical or mixture

Fire hazard: high.  
Explosion hazard: Not known.  
Oxides of the following substances: Carbon, Sulfurous gases (SO<sub>x</sub>)  
In a fire or if heated, a pressure increase will occur, and the container may burst.

### 5.3 Special Fire Fighting Procedures

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for firefighters (including helmets, protective boots, and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. Cool containers exposed to flames with water until well after the fire is out. Use water spray to reduce vapors. If the risk of water pollution occurs, notify appropriate authorities. **Avoid water in straight hose stream**; will scatter and spread fire. Keep upwind. Do not inhale explosions and combustion gases. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Cool containers exposed to flames with water until well after the fire is out. If risk of water pollution occurs, notify appropriate authorities.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal Precautions

For non-emergency personnel: 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. Put on appropriate personal protective equipment.  
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.

### 6.2 First Aid

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.

### 6.3 Environmental Precautions

Do not discharge into drains, sewers, or watercourses or onto the ground. Inform the relevant authorities if this occurs.

### 6.4 Methods for Containment and Clean Up

Stop the leak safely and contain the spill. Then pump the released substance (liquid, large spill) as much as possible. Spilled product should be removed immediately. Provide enough ventilation. Recover

product for reuse if possible. Avoid contamination of waterways and (if large quantity) vegetation. Absorb in non-combustible, inert material, vermiculite, powdered limestone, sawdust, universal binder, dry sand or earth and place into containers. Clean contaminated surfaces with water and soap. Dispose material according to section 13.

#### **6.5 Reference to other sections**

See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## **7. HANDLING AND STORAGE**

### **7.1 Precautions for safe handling**

Contain with applicable regulations and use proper PPE. Avoid contact with eyes. Avoid inhalation of vapors and spray/mist. Remove contaminated clothing immediately. Clean contaminated objects and areas thoroughly observing environmental regulations. Keep away from sources of ignition – No smoking. Handle in accordance with good industrial hygiene and safety procedures. Discharge into the environment must be avoided. Keep container tightly closed. Either local exhaust or general room ventilation is usually required.

### **7.2 Hygiene measures**

Handle in accordance with good industrial hygiene and safety procedures. Use good personal hygiene practices. 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. See also Section 8 for additional information on hygiene measures.

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

**Technical measures:** Clean bulk tanks periodically to prevent accumulation of bacteria  
**Storage conditions:** Store in tightly closed, original container in a well-ventilated, cool, dry place. Protect against frost. Protect against direct sunlight.  
**Storage temperature:** See technical datasheet. Above 10°C (50°F) and away from heat or flame and store below 40°C (104 °F).  
**Storage area:** Store in a dry area. Comply with applicable regulations. Collect spillage. Do not store in unlabeled containers.  
**Packaging materials:** Stainless steel. Plastic.

### **7.4 Specific end use(s)**

No information available

## **8. EXPOSURE CONTROL / PERSONAL PROTECTION**

### **8.1 Control parameters**

Not established exposure limit value.

#### **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. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the

assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### Derived effect levels

No DELs available.

#### Predicted effect concentrations

No PECs available.

### 8.2 Exposure Control



#### Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients. Do not allow uncontrolled discharge of product into the environment.

### 8.3 Individual protection measures

#### Hygiene Measures

Wash hands, forearms, and face thoroughly after handling chemical product, 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.

#### Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases, or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

#### Respiratory protection

Not needed but use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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. In case of dust/mist/aerosol: dust mask with filter type P2

#### 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). In case of a short-term direct exposure nitrile rubber/nitrile latex >0.2 mm thick, of minimum time of

<b>Other skin and body protection</b>	penetration 30 min should be used. Wear appropriate clothing to prevent any possibility of skin contact.
<b>Hygiene measures</b>	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>Environmental Exposure Controls</b>	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance	Clear yellow to clear brown, amber
Odor	Light Vegetable Oil
Odor threshold	Not determined.
pH	Not determined. Natural when diluted with water.
Melting point /Freezing Point	-2°C
Initial Boiling point and boiling point range	Not determined.
Flash Point	282°C (540°F)
Evaporation rate	Not determined.
Flammability (solid; gas)	Not determined.
Upper/lower flammability or explosive limits	Not determined.
Vapor pressure	Not determined.
Vapor density	Not determined.
Relative density	0.925 g/cm <sup>3</sup> (7.719 lbs/gal)
Solubility (ies)	Dispersible
Partition coefficient: n-octanol/water	Not determined.
Initial Boiling point and boiling point range	Not determined.
Auto-ignition temperature	Unknown
Decomposition temperature	Unknown
Viscosity	80 cP at 24°C; 35 cSt at 40°C

## 10. STABILITY AND REACTIVITY

<b><u>10.1 Reactivity</u></b>	No further relevant information available.
<b><u>10.2 Chemical stability</u></b>	Stable under normal conditions and use.
<b><u>10.3 Possibility of hazardous reactions</u></b>	No dangerous reactions known.
<b><u>10.4 Conditions to avoid</u></b>	No further relevant information available.
<b><u>10.5 Incompatible materials</u></b>	No further relevant information available.

**10.6 Hazardous decomposition products**

Oxides of carbon (COx).

**10.7 Hazardous Polymerization**

Hazardous polymerization will not occur.

**11. TOXICOLOGICAL INFORMATION****11.1 Acute Toxicity**

Acute toxicity (oral)	LD50 Species: Rat (male/female) Dose: >5000 mg/kg Method: OECD 423
Skin	Acute toxicity estimate: 3,571 mg/kg Method: Calculation method
Serious Eye Damage/Irritation	Not classified
Respiratory or Skin Sensitization	Not classified
Ingestion	Not classified
Germ Cell Mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive Toxicity	Not classified
Specific Target Organ Toxicity – Single Exposure	Not classified
Specific Organ Toxicity – Repeated Exposure	Not classified
Aspiration Hazard	Not classified
General Remarks	Not classified
Repeated does toxicity	> 5000 mg/Kg bw/day [OECD 422, CAS# 8001-30-7]
Reproductive toxicity	> 2000 mg/Kg bw/day [OECD 422, CAS# 8001-30-7]

**11.2 Additional Toxicological Information**

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us. The substance is not subject to classification.

**11.3 Carcinogenic Categories**

**11.3.1 IRAC** (International Agency for Research on Cancer): No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

**11.3.2 ACGIH** (American Conference of Governmental Industrial Hygienists): No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by ACGIH.

**11.3.3 NTP** (National Toxicology Program): No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by NTP.

**11.3.4 OSHA** (Occupational Safety & Health Administration): No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.



## 12. ECOLOGICAL INFORMATION

### **12.1 Chemical Fate Information**

Biodegradation in water / aerobic: during tests for ready biodegradability the degradation of the test substance passed within the 10-day time window the threshold value (60% ThOD) set for classification as "readily biodegradable" [Method: OECD 301 D (Ready Biodegradability: Closed Bottle Test)]

### **12.2 Biodegradability**

301D Readily Biodegradability – Closed Bottle Test >60% - readily 28 days

Chemical Oxygen Demand: 2.324 mg/g DIN 38409 T.31

### **12.3 Toxicity**

Acute toxicity to fish- LC0: >100 mg/L 96h (no data, OCED 203, s-s)

Acute toxicity to aquatic invertebrates: No data

Toxicity to aquatic algae: No data

Toxicity to microorganisms- EC50: >100 mg/L 3 h (a.s. bacteria, OCED 209, s)

### **12.4 Bioaccumulative potential**

BCF: < 10; partition coefficient n-octanol/water (log Kow, (Q)SAR): 7,05 The substance does not show bioaccumulative potential.

### **12.5 Aquatotoxicity, invertebrates**

Species: Daphnia magna

Exposure duration: 48 h

EC50: > 100 mg/l

Method: OECD 202

### **12.6 Aquatotoxicity, algae / aquatic plants**

Species: Scenedesmus subspicatus

Exposure duration: 72 h

EbC50: 341 mg/l

Method: OECD 201

### **12.7 Mobility in soil**

Adsorption coefficient in soil (log Koc): no data

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

The substance is not PBT or vPvB

### **12.9 Other adverse effects**

No information available

## 13. DISPOSAL CONSIDERATIONS

### **13.1 Waste Disposal Methods**

Always consider/evaluate the opportunity of re-using the material, whenever applicable. Dispose of the special waste by delivering to an authorized incineration plant adhering to the environmental regulation in force or, alternatively, by delivering to an authorized recycling/treatment plant, in accordance with regional/national/Community provisions in force. Contaminated containers shall be consigned to a specific recycling plant or disposed of in accordance with local regulation in force.

See Section 6 for more information on proper methods for collection and personal/environmental precautions.

### **13.2 Hazardous Waste**

Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

### **European waste catalogue (EWC)**

Waste code: 16 03 06      organic wastes other than those mentioned in 16 03 05

## **14. TRANSPORTATION INFORMATION**

### **14.1 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

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

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

### **14.3 IMDG**

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

### **14.4 IATA**

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

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

Not applicable for product as supplied.

## **15. REGULATORY INFORMATION**

### **15.1 EPCRA - Emergency Planning and Community Right-to-Know Act**

#### **CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

**15.2 SARA 311/312 Hazards:** No SARA Hazards

#### **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.

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

### **15.3 California Prop. 65**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

### **15.4 The components of this product are reported in the following inventories:**

CH INV:	On the inventory, or in compliance with the inventory
DSL:	All components of this product are on the Canadian DSL
AICS:	On the inventory, or in compliance with the inventory
NZIoC:	On the inventory, or in compliance with the inventory
ENCS:	On the inventory, or in compliance with the inventory
KECI:	Not in compliance with the inventory
PICCS:	On the inventory, or in compliance with the inventory
IECSC:	On the inventory, or in compliance with the inventory
TCSI:	On the inventory, or in compliance with the inventory
TSCA:	On the inventory, or in compliance with the inventory

## **16. OTHER INFORMATION**

Components not precisely identified are proprietary or non-hazardous.

### **16.1 Abbreviation/acronyms used**

UVCB (substance)- Chemical substances of Unknown or Variable Composition, complex reaction products and Biological materials

CAS (number)- Chemical Abstracts Service

EC (number)- Ref. EINECS/ELINCS number

R.E.A.Ch.- Registration, Evaluation, Authorisation and Restriction of Chemicals

TARIC - Tariffa Integrata della Comunità (Integrated Community Tariff code)

GHS - Globally Harmonised System of Classification and Labelling of Chemicals

CLP - Classification, Labelling and Packaging regulation

n/a - not applicable

PPE - Personal Protection Equipment

(Q)SAR - (Quantitative) Structure-Activity Relationship

bw – body weight

NOAEL - No Observed Adverse Effect Levels

STOT - Specific Target Organ Toxicity

BCF - Bioconcentration Factor

PBT (substance) - Persistent Bioaccumulative Toxic

vPvB (substance) - very Persistent, Very Bioaccumulative

SVHC (substance) - Substances of Very High Concern

Mixture classified as not dangerous according to Regulation (EC) 1272/2008.

Observe employment restrictions for people.

Product is not listed with IARC, NTP, ACGIH or OSHA as a carcinogen.

**Disclaimer:** The information contained in this Safety Data Sheet (SDS), as of the issue date, is believed to be true and correct. However, the accuracy or completeness of this information and any recommendations or suggestions are made without warranty, express or implied, or guarantee. Tersus Environmental, LLC urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. Since we cannot control the application, use or processing of the product, we do not accept responsibility. Therefore, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product and ensure that the intended use of the product will not infringe any party's intellectual property right. The information presented here pertains only to the product as shipped.

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 for ensuring that the product supplied by us is suitable for the process or purpose he/she intends to use it.

Due to the proliferation of sources for information such as manufacturer specific SDSs, we are not and cannot be responsible for SDSs obtained from any source other than ourselves. If you have obtained an SDS from another source or if you are not sure that the SDS you have is current, please contact us for the most current version.



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**End of Safety Data Sheet**