

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Trade name or designation of the mixture PetroFix Electron Acceptor Blend

Registration number -

Synonyms None.

Issue date 15-August-2018

Version number 02

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Supersedes date 15-August-2018

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Remediation of soils and groundwater.

Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

Company name REGENESIS

Address Cambridge House
Henry Street
Bath, Somerset
BA1 1BT
United Kingdom

General information +44 (0) 1225 618161

E-mail CustomerService@regenesisc.com

1.4. Emergency telephone number

National Health Service (NHS) 111 (Available 24 hours a day). SDS/Product information may not be available for the Emergency Service.)

CHEMTREC For Dangerous Goods Incidents ONLY (spill, leak, fire, exposure or accident), call CHEMTREC 24/7 at:

International +1 703-741-5970

USA, Canada (+1)-800-424-9300

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended**Health hazards**

Serious eye damage/eye irritation Category 2

H319 - Causes serious eye irritation.

2.2. Label elements**Label according to Regulation (EC) No. 1272/2008 as amended**

Contains: Ammonium sulfate

Hazard pictograms

Signal word Warning

Hazard statements

H319 Causes serious eye irritation.

Precautionary statements

Prevention

P264 Wash thoroughly after handling.
P280 Wear eye protection/face protection.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.

Storage

None.

Disposal

None.

Supplemental information on the label

None.

2.3. Other hazards

This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Ammonium sulfate	30 - 60	7783-20-2 231-984-1	-	-	
Classification: -					
Sodium nitrate	30 - 60	7631-99-4 231-554-3	-	-	
Classification: Eye Irrit. 2;H319, Carc. 1B;H350					

Composition comments

The full text for all H-statements is displayed in section 16.
All concentrations are in percent by weight unless otherwise indicated.

SECTION 4: First aid measures

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

4.1. Description of first aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact

Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

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

Direct contact with eyes may cause temporary irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

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

Provide general supportive measures and treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards

Material will not burn.

5.1. Extinguishing media

Suitable extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media

None known.

5.2. Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed. Combustion products may include: nitrogen oxides, sulfur oxides, ammonia.

5.3. Advice for firefighters

Special protective equipment for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire fighting procedures

Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Wear appropriate personal protective equipment.

For emergency responders Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up Avoid the generation of dusts during clean-up. Collect dust using a vacuum cleaner equipped with HEPA filter. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Absorb in vermiculite, dry sand or earth and place into containers. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Minimise dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Avoid contact with eyes. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see section 10 of the SDS).

7.3. Specific end use(s) Remediation of soils and groundwater.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits No exposure limits noted for ingredient(s).

Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

General information Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection Wear approved safety goggles. Use tight fitting goggles if dust is generated.

Skin protection

- Hand protection Wear protective gloves. Suitable gloves can be recommended by the glove supplier.

- Other Wear suitable protective clothing.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Recommended use: Wear respirator with dust filter.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance**

Physical state Solid.

Form Powder.

Colour White.

Odour Property has not been measured.

Odour threshold Property has not been measured.

pH Property has not been measured.

Melting point/freezing point Property has not been measured.

Initial boiling point and boiling range Property has not been measured.

Flash point Not applicable, material is a solid.

Evaporation rate Property has not been measured.

Flammability (solid, gas) This material will not burn.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not applicable, material is a solid.

Explosive limit – upper (%) Not applicable, material is a solid.

Vapour pressure Property has not been measured.

Vapour density Property has not been measured.

Relative density Property has not been measured.

Solubility(ies)

Solubility (water) Property has not been measured.

Partition coefficient (n-octanol/water) Not applicable.

Auto-ignition temperature Not applicable, material is a solid.

Decomposition temperature Property has not been measured.

Viscosity Not applicable.

Explosive properties Not explosive.

Oxidising properties Not oxidising.

9.2. Other information

Density Property has not been measured.

Kinematic viscosity Not applicable, material is a solid.

SECTION 10: Stability and reactivity

10.1. Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability Material is stable under normal conditions.

10.3. Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid Contact with incompatible materials. Heat.

10.5. Incompatible materials Strong reducing agents. Strong acids.

10.6. Hazardous decomposition products No hazardous decomposition products are known.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation Dust may irritate respiratory system.

Skin contact Dust or powder may irritate the skin.

Eye contact Causes serious eye irritation.

Ingestion May cause discomfort if swallowed.

Symptoms Direct contact with eyes may cause temporary irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

11.1. Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Ammonium sulfate (CAS 7783-20-2)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg
Inhalation		
<i>Dust</i>		
LC50	Rat	> 1000 mg/m ³ , 8 Hours
Oral		
LD50	Rat	2000 - 4250 mg/kg
Skin corrosion/irritation	Based on available data, the classification criteria are not met.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Respiratory sensitisation	Based on available data, the classification criteria are not met.	
Skin sensitisation	Based on available data, the classification criteria are not met.	
Germ cell mutagenicity	Based on available data, the classification criteria are not met.	
Carcinogenicity	Based on available data, the classification criteria are not met.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Sodium nitrate (CAS 7631-99-4)	2A Probably carcinogenic to humans.	
Reproductive toxicity	Based on available data, the classification criteria are not met.	
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.	
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.	
Aspiration hazard	Based on available data, the classification criteria are not met.	
Mixture versus substance information	No information available.	
Other information	None known.	

SECTION 12: Ecological information

12.1. Toxicity Due to partial or complete lack of data the classification for hazardous to the aquatic environment, is not possible.

Components	Species	Test Results
Ammonium sulfate (CAS 7783-20-2)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50	Daphnia magna > 100 mg/l, 96 Hours
Fish	LC50	Pimephales promelas > 100 mg/l, 96 Hours
<i>Chronic</i>		
Fish	NOEC	Pimephales promelas 300 mg/l, 10 days
12.2. Persistence and degradability	The product solely consists of inorganic compounds which are not biodegradable.	
12.3. Bioaccumulative potential	No data available.	
Partition coefficient n-octanol/water (log Kow)	Not available.	
Bioconcentration factor (BCF)	Not available.	
12.4. Mobility in soil	No data available.	
12.5. Results of PBT and vPvB assessment	This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.	
12.6. Other adverse effects	None known.	

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Retained direct EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Sodium nitrate (CAS 7631-99-4)

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

15.2. Chemical safety assessment No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road.
CAS: Chemical Abstract Service.
CEN: European Committee for Standardization (Comité Européen de Normalisation).
IATA: International Air Transport Association.
IBC: Intermediate Bulk Container.
MARPOL: International Convention for the Prevention of Pollution from Ships.
PBT: Persistent, bioaccumulative, toxic.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
vPvB: very Persistent, very Bioaccumulative.
ECHA: European Chemical Agency.

References

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any statements, which are not written out in full under sections 2 to 15

H319 Causes serious eye irritation.
H350 May cause cancer.

Training information

Follow training instructions when handling this material.

Disclaimer

Regenesis cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.