

**Safety Data Sheet (SDS)**

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 05/29/2015

Reviewed on 05/29/2015

**\* 1 Identification**

- **Product identifier**
- **Trade name:** Petrox
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Product description** Soil bioremediation solution used to neutralize pollutants.
- **Application of the substance / the mixture** Bioremediation of soil.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Osprey Biotechnics, Inc.  
1833A 57th Street  
Sarasota, FL 34243  
941-351-2700
- **Emergency telephone number:** Chemtrec 1-800-424-9300 or outside USA 1-703-527-3887

**\* 2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS03 Flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidizer.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS03 GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

Trade Secret

Sodium Nitrate

- **Hazard statements**

May intensify fire; oxidizer.

Harmful if swallowed or if inhaled.

Causes serious eye irritation.

May cause respiratory irritation.

- **Precautionary statements**

Take any precaution to avoid mixing with combustibles.

Keep away from heat.

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- Keep/Store away from clothing/combustible materials.
- Avoid breathing dust/fume/gas/mist/vapors/spray.
- Use only outdoors or in a well-ventilated area.
- Wear protective gloves / eye protection / face protection.
- Wear eye protection / face protection.
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If swallowed: Call a poison center/doctor if you feel unwell.
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- If eye irritation persists: Get medical advice/attention.
- Rinse mouth.
- In case of fire: Use for extinction: CO2, powder or water spray.
- Store locked up.
- Store in a well-ventilated place. Keep container tightly closed.
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Unknown acute toxicity:**  
18 percent of the mixture consists of ingredient(s) of unknown toxicity.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 2  
Fire = 3  
Reactivity = 0

The substance possesses oxidizing properties.

- **HMIS-ratings (scale 0 - 4)**



Health = 1  
Fire = 3  
Reactivity = 0

- **Hazard(s) not otherwise classified (HNOC):** None

### \* 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.
- **Dangerous Components:**

	Trade Secret	25-50%
	⚠ Acute Tox. 4, H302; Acute Tox. 4, H332; STOT SE 3, H335; Eye Irrit. 2B, H320; Combustible Dust	
7631-99-4	Sodium Nitrate	15-35%
	⚠ Ox. Sol. 2, H272; ⚠ Eye Irrit. 2A, H319	

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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- **After inhalation:**  
Supply fresh air. If required, provide artificial respiration. Consult doctor if symptoms persist.  
In case of unconsciousness, place patient securely on side position for transportation.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed:** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

**\* 5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**  
If incinerated, product will release the following: Sodium Oxides, Nitrogen Oxides (NO<sub>x</sub>), Carbon Oxides, Sulfur Oxides.
- **Advice for firefighters**  
Product has a combustible dust hazard. Avoid generating dust while extinguishing any fires.  
Wet or damp material may start to decompose and release heat causing any nearby combustibles to catch fire. If containers begin to discolor or vent violently, emergency responders should evacuate area.  
Use water spray to cool unopened containers.  
When product decomposes, it will release oxygen, which may intensify fires. Use caution.
- **Protective equipment:**  
Mouth respiratory protective device.  
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Dispose contaminated material as waste according to section 13.  
Ensure adequate ventilation.  
Dispose of the collected material according to regulations.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

**\* 7 Handling and storage**

- **Handling:**
- **Precautions for safe handling**  
Thorough dedusting.  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of dust.
- **Information about protection against explosions and fires:**  
Protect from heat.  
Keep protective respiratory device available.

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

Store away from strong acids, strong bases, strong oxidizing agents, strong reducing agents, powdered metals, organic materials, Alkali metals, Alkaline earth metals, Cyanides and Thiocyanates.

- **Storage:**

- **Requirements to be met by storerooms and receptacles:**

Store below 32 °F and keep frozen until ready to hydrate.

- **Information about storage in one common storage facility:** Not required.

- **Further information about storage conditions:**

Keep receptacle tightly sealed.

Protect from heat and direct sunlight.

- **Specific end use(s)** No further relevant information available.

### \* 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.

- **Control parameters**

All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

- **Components with occupational exposure limits:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing and wash before reuse.

Wash hands before breaks and at the end of work.

- **Breathing equipment:**

Use suitable respiratory protective device in case of insufficient ventilation.

Not necessary if room is well-ventilated.

- **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Select glove material based on penetration times, rates of diffusion and degradation.

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

- **Eye protection:**



Safety glasses

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**\* 9 Physical and chemical properties****· Information on basic physical and chemical properties****· General Information****· Appearance:****Form:** Crystalline powder**Color:** Light Tan**· Odor:** Savory**· Odor threshold:** Not determined.**· pH-value @ 20 °C (68 °F):** < 8**· Change in condition****Melting point/Melting range:** Not determined.**Boiling point/Boiling range:** 600 °C (1112 °F)**· Flash point:** 210 °C (410 °F)**· Flammability (solid, gaseous):** Contact with combustible material may cause fire.**· Ignition temperature:****Decomposition temperature:** Not determined.**· Auto igniting:** Product is not self-igniting.**· Danger of explosion:** Not determined.**· Explosion limits:****Lower:** Not determined.**Upper:** Not determined.**· Vapor pressure:** Not applicable.**· Density:****Relative density** Not determined.**Vapor density** Not applicable.**Evaporation rate** Not applicable.**· Solubility in / Miscibility with****Water:** Soluble.**· Partition coefficient (n-octanol/water):** Not determined.**· Viscosity:****Dynamic:** Not applicable.**Kinematic:** Not applicable.**· Solvent content:****Organic solvents:** 0.0 %**Solids content:** 100.0 %**· Other information** No further relevant information available.**\* 10 Stability and reactivity****· Reactivity** No further relevant information available.**· Chemical stability** Stable under normal conditions.**· Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.**· Possibility of hazardous reactions** No dangerous reactions known.

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- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**  
Strong acids, strong bases, strong oxidizing agents, strong reducing agents, powdered metals, organic materials, Alkali metals, Alkaline earth metals, Cyanides and Thiocyanates.
- **Hazardous decomposition products:**  
Sodium Oxides, Nitrogen Oxides (NOx), Carbon Oxides, Sulfur Oxides.

**\* 11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
  - **on the skin:** No irritating effect.
  - **on the eye:** Causes serious eye irritation.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Irritant
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**  
Substance is not listed.  
None of the ingredients are listed.
- **NTP (National Toxicology Program)**  
None of the ingredients are listed.
- **OSHA-Ca (Occupational Safety & Health Administration)**  
None of the ingredients are listed.

**\* 12 Ecological information**

- **Toxicity**
- **Aquatic toxicity:**  
**7631-99-4 Sodium Nitrate**  
EC50 6000 mg/l (Water flea)
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not known to be hazardous to water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

**\* 13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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- **Uncleaned packagings:**
- **Recommendation:**  
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.  
Disposal must be made according to official regulations.

### 14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA**
- **UN proper shipping name**
- **DOT**
- **ADR**
- **IMDG, IATA**
- **Transport hazard class(es)**

UN1479

Oxidizing solid, n.o.s. (Sodium nitrate)  
UN1479 Oxidizing solid, n.o.s. (Sodium nitrate)  
OXIDIZING SOLID, N.O.S. (SODIUM NITRATE)

- **DOT**



- **Class**
- **Label**
- **ADR**

5.1 Oxidizing substances  
5.1



- **Class**
- **Label**

5.1 (O2) Oxidizing substances  
5.1

- **IMDG, IATA**



- **Class**
- **Label**

5.1 Oxidizing substances  
5.1

- **Packing group**
- **DOT, ADR, IMDG, IATA**
- **Environmental hazards:**
- **Special precautions for user**
- **Danger code (Kemler):**
- **EMS Number:**
- **Segregation groups**

III  
Not applicable.  
Warning: Oxidizing substances  
50  
F-A,S-Q  
Powdered metals, ammonium compounds, cyanides, peroxides

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

- **Transport/Additional information:**

- **DOT**

- **Quantity limitations**

On passenger aircraft/rail: 25 kg  
On cargo aircraft only: 100 kg

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· **ADR**

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

· **IMDG**

· **Limited quantities (LQ)**

· **Excepted quantities (EQ)**

5 kg

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

· **UN "Model Regulation":**

UN1479, Oxidizing solid, n.o.s. (Sodium nitrate), 5.1, III

### \*15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act):**

50-99-7 glucose

7631-99-4 Sodium Nitrate

7772-98-7 Sodium thiosulphate

· **California Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients are listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

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### Hazard pictograms



GHS03 GHS07

### Signal word Danger

### Hazard-determining components of labeling:

Trade Secret  
Sodium Nitrate

### Hazard statements

May intensify fire; oxidizer.  
Harmful if swallowed or if inhaled.  
Causes serious eye irritation.  
May cause respiratory irritation.

### Precautionary statements

Take any precaution to avoid mixing with combustibles.  
Keep away from heat.  
Keep/Store away from clothing/combustible materials.  
Avoid breathing dust/fume/gas/mist/vapors/spray.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves / eye protection / face protection.  
Wear eye protection / face protection.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If swallowed: Call a poison center/doctor if you feel unwell.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
If eye irritation persists: Get medical advice/attention.  
Rinse mouth.  
In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.  
Store locked up.  
Store in a well-ventilated place. Keep container tightly closed.  
Dispose of contents/container in accordance with local/regional/national/international regulations.

### National regulations:

The product is subject to be classified according with the latest version of the regulations on hazardous substances.

### State Right to Know

	Trade Secret	25-50%
	⚠ Acute Tox. 4, H302; Acute Tox. 4, H332; STOT SE 3, H335; Eye Irrit. 2B, H320; Combustible Dust	
CAS: 50-99-7	glucose	25-50%
CAS: 7631-99-4	Sodium Nitrate	15-35%
	⚠ Ox. Sol. 2, H272; ⚠ Eye Irrit. 2A, H319	
CAS: 91079-46-8	Peptones, soybean	5-10%
CAS: 7772-98-7	Sodium thiosulphate	≤ 2.5%
RTECS: XN6476000		
All ingredients are listed.		

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- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

- **Date of preparation / last revision** 05/29/2015 / -

- **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road  
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
Ox. Sol. 2: Oxidising Solids, Hazard Category 2  
Acute Tox. 4: Acute toxicity, Hazard Category 4  
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A  
Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B  
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

- **\* Data compared to the previous version altered.**

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