



Aerobic Bioremediation Product

EC- SAFETY DATA SHEET according to EC directive 2001/58/EC
MATERIAL SAFETY DATA SHEET

MSDS # CP-1003

Page 1 of 10

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: STIMULOX™ Aerobic Bioremediation Product SYNONYMS AND ALTERNATE TRADE NAMES: None. USE OF SUNSTANCE: Groundwater remediation.	
COMPANY NAME (US): CARUS CORPORATION	COMPANY ADDRESS: 315 Fifth Street Peru, IL 61354, USA INFORMATION: (815) 223-1500 (815) 224-6816 (FAX) www.caruscorporation.com (Web) salesmkt@carusorporation.com (Email) EMERGENCY TELEPHONE: (800) 435 –6856 (USA) (815) 223-1500 (Other countries) (800) 424-9300 (CHEMTREC®, USA) (703) 527-3887 (CHEMTREC®, Other countries)
COMPANY NAME (Europe): CARUS NALON S.L.	COMPANY ADDRESS: Barrio Nalon, s/n 33100 Trubia-Oviedo Espana, Spain INFORMATION: (34) 985-785-513 EMERGENCY TELEPHONE: (34) 985-785-513

SECTION 2 HAZARDS IDENTIFICATION

Hazardous Materials Identification System (HMIS) Ratings: Health: 1 - Slight Flammability: 0 - None Reactivity: 1 - Slight Personnel Protective Equipment: F safety glasses, gloves, apron and a dust respirator IMMEDIATE CONCERNS: Contains oxidizers: product decomposes in storage under conditions of moisture and/or excessive heat, causing release of oxygen that may support combustion.
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Aerobic Bioremediation Product

EC- SAFETY DATA SHEET according to EC directive 2001/58/EC MATERIAL SAFETY DATA SHEET

MSDS # CP-1003

Page 2 of 10

1. EYE CONTACT

Air borne dust is damaging to eye tissue on contact. It may cause severe burns that result in damage to the eye. Exposure to high dust levels may cause difficulty in breathing in sensitive persons.

2. SKIN CONTACT

May be irritating to the skin, after prolonged exposures.

3. INHALATION

Airborne dust may cause damage to the respiratory tract, coughing and possible nosebleeds or sore throat.

4. INGESTION

If swallowed, may cause severe irritation to mucous membranes of the mouth, throat, esophagus, and stomach causing nausea and vomiting.

SECTION 3. HAZARDOUS INGREDIENTS

INGREDIENTS	CAS NUMBER	EC NUMBER	PERCENT
Calcium peroxide	1305-79-9	215-139-4	1-40 %
Dipotassium peroxodisulfate	7727-21-1	231-781-8	1-40%
Diammonium peroxodisulfate	7727-54-0	231-786-5	1-40%
Other ingredients	N/A	N/A	1-40%

HAZARD SYMBOLS:



Oxidizing



Harmful

RISK PHRASES:

- 8 Contact with combustibles may case fire.
- 22 Harmful if swallowed.
- 36/37/38 Irritating to eyes, respiratory system and skin.
- 42/43 May cause sensitization by inhalation and skin contact



Aerobic Bioremediation Product

EC- SAFETY DATA SHEET according to EC directive 2001/58/EC MATERIAL SAFETY DATA SHEET

MSDS # CP-1003

Page 3 of 10

SAFETY PHRASES:

- 2 Keep out of reach of children
- 22 Do not breathe dust
- 24 Avoid contact with skin
- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 37 Wear suitable gloves

SECTION 4 FIRST AID MEASURES

Eyes:

Immediately flush eyes with large amounts of water for at least 15 minutes holding lids apart to ensure flushing of the entire surface.

Skin:

Immediately wash contaminated areas with water. Remove contaminated clothing and footwear. Wash clothing and decontaminate footwear before reuse.

Inhalation:

Remove person from contaminated area to fresh air.

Ingestion:

Never give anything by mouth to an unconscious or convulsing person. If person is conscious, rinse mouth and give large quantities of water or milk. Do not induce vomiting. Seek medical attention immediately.

SECTION 5. FIRE FIGHTING MEASURES

NFPA * HAZARD SIGNS

- Health Hazard 1 = Materials which under fire conditions would give off irritating combustion products. (less than 1 hour exposure)
Materials that on the skin could cause irritation.
- Flammability Hazard 0 = Materials that will not burn.
- Reactivity Hazard 1 = Normally stable material, which can become unstable at high temperature and pressure.
- Special Hazard Oxidizer

*National Fire Protection Association 704 (USA)

FLAMMABILITY CLASSIFICATION: Non-combustible

FLASH POINT: Not applicable



Aerobic Bioremediation Product

EC- SAFETY DATA SHEET according to EC directive 2001/58/EC
MATERIAL SAFETY DATA SHEET

MSDS # CP-1003

Page 4 of 10

SELF-IGNITION TEMPERATURE: Not applicable.

EXTINGUISHING MEDIA: Deluge with water.

FIRE / EXPLOSION HAZARDS: Product is non-combustible. Upon decomposition due to heat or moisture, the product releases oxygen that may intensify a fire.

FIRE FIGHTING PROCEDURES: Carbon dioxide or other gas filled fire extinguishers have no effect on decomposing product. Wear full protective clothing and self-contained breathing apparatus.

SENSITIVITY TO STATIC DISCHARGE: Not available.

SENSITIVITY TO IMPACT: Not available.

HAZARDOUS DECOMPOSITION PRODUCTS: Decomposes to oxygen that may support combustion, and oxides of sulfur and nitrogen.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

Ensure adequate ventilation. Avoid inhalation and contact with eyes and skin. Personnel should wear protective clothing suitable for the task. Remove all ignition sources and incompatible materials before attempting clean up.

ENVIRONMENTAL PRECAUTIONS:

Do not flush into sanitary sewer system or surface water. If accidental release into the environment occurs, inform the responsible authorities. Keep the product away from drains, sewers, surface and ground water and soil.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Spilled material should be swept up, placed in DOT-approved, vented containers and isolated for disposal. Isolated material should be monitored for evidence of decomposition (fuming/smoking). If spilled material is wet, then dissolve completely with water. All disposals should be in accordance with all local, state, and federal agency procedures.

SECTION 7 HANDLING AND STORAGE

WORK/HYGIENIC PRACTICES

Operate in a well-ventilated area. Wear respiratory and eye protection to avoid nuisance dusts. Use clean plastic or stainless steel scoops/shovels only. Never return unused product to the original storage container. Protect from direct sunlight and heat sources

VENTILATION REQUIREMENTS

Provide sufficient mechanical and/or local exhaust.



Aerobic Bioremediation Product

EC- SAFETY DATA SHEET according to EC directive 2001/58/EC MATERIAL SAFETY DATA SHEET

MSDS # CP-1003

Page 5 of 10

CONDITIONS FOR SAFE STORAGE

Store product separately from incompatible materials and in accordance with NFPA 430 requirements for Class I oxidizer. Keep new product in a tightly sealed container, in a cool, dry, ventilated area. Protect against physical damage. Protect from direct sunlight and heat sources. In case of fire, deluge with plenty of water to avoid decomposition.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE LIMITS: The minimum TWA for any component is 0.1 mg/m³.

ENGINEERING CONTROLS: Provide mechanical local and/or general room ventilation to prevent dust release or accumulation. Remove contaminated clothing and immerse in water.

PERSONAL PROTECTIVE EQUIPMENT

EYES: Use chemical and dust-proof safety goggles.

RESPIRATORY: Use a NIOSH-approved dust respirator (Type N95 or better filters) for conditions in which exposure to airborne dust cannot be avoided.

SKIN PROTECTION: Wear rubber or neoprene

SECTION 9. CHEMICAL AND PHYSICAL PROPERTIES

APPEARANCE: Fine, white to off-white powder.

ODOR: None.

pH: Approximately 10 in saturated solution.

PERCENT VOLATILE: Not applicable.

VAPOR PRESSURE: Not applicable.

VAPOR DENSITY: Not applicable.

BOILING POINT: Not applicable.

MELTING POINT: Not applicable (decomposes).

SOLUBILITY: Slightly soluble in water. Soluble in acid.

EVAPORATION RATE: Not applicable.

LOOSE BULK DENSITY: Approximately 1.2 g/cc

OXIDIZING PROPERTIES: Oxidizer.

SECTION 10. STABILITY AND REACTIVITY

STABILITY: Stable unless exposed to heat, moisture, or incompatible materials.

CONDITIONS TO AVOID: Heat and moisture.

POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS: Decomposes in the presence of heat and or water to release oxygen, hydrogen peroxide, and oxides of sulfur and nitrogen.



Aerobic Bioremediation Product

EC- SAFETY DATA SHEET according to EC directive 2001/58/EC
MATERIAL SAFETY DATA SHEET

MSDS # CP-1003

Page 6 of 10

INCOMPATIBLE MATERIALS: Acids, reducing agents, heavy metals, combustible or flammable materials, and organic compounds.

SECTION 11 TOXICOLOGICAL INFORMATION

No component in this product is a known or suspected carcinogen or mutagen. The following data are available for individual components:

CAS#: 7727-54-0

EYE EFFECTS: Minimally irritating.

SKIN EFFECTS: Non-irritating.

DERMAL LD₅₀: Minimum of >2.0 mg/kg (rat).

ORAL LD₅₀: Minimum of >2.00 mg/kg (rat).

INHALATION LC₅₀: Minimum of >2.95 mg/L (rat).

TARGET ORGANS: Gastrointestinal system, eyes, skin, respiratory system.

ACUTE EFFECTS OF OVEREXPOSURE: Dust may be harmful or irritating. Dermal and ingested toxicity is low to moderate. Product may be irritating to eyes.

CHRONIC EFFECTS OF OVEREXPOSURE: Sensitive persons may develop dermatitis and / or asthma.

SECTION 12 ECOLOGICAL INFORMATION

Aquatic Toxicity:

No data are available for the blended product. The following data are available for individual chemical components:

CAS#: 7727-54-0

Fishes: Minimum 96-hr LC₅₀ = 76 mg/L

Crustaceans: Minimum 48-hr LC₅₀ = 25 mg/L

Abiotic degradation is via slow hydrolysis. No components are known to bioaccumulate. Diluted product is rapidly neutralized at environmental pH.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Disposal:

Disposal of all materials shall be in full and strict compliance with all federal, state, and local regulations pertaining to phosphates. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. When this product becomes a waste or becomes a discarded chemical, it is considered as a D001 (ignitable) waste.

RCRA P-Series: None listed.

RCRA U-Series: None listed.



Aerobic Bioremediation Product

EC- SAFETY DATA SHEET according to EC directive 2001/58/EC MATERIAL SAFETY DATA SHEET

MSDS # CP-1003

Page 7 of 10

SECTION 14 TRANSPORT INFORMATION

USA (land, D.O.T.)	Proper Shipping Name: 49 CFR172.101....Oxidizing solid, n.o.s. (calcium peroxide, dipotassium peroxodisulfate) Hazard Class: 49 CFR172.101....Oxidizer ID Number: 49 CFR172.101....UN 1479 Packing Group: 49 CFR172.101....II Division: 49 CFR172.101....5.1
European Labeling in accordance Road/Rail Transport (ADR/RID)	ID Number: UN 1479 ADR/RID Class 5.1 Description of Goods: Oxidizing solid, n.o.s. (calcium peroxide, dipotassium peroxodisulfate) Hazard Identification No. 50
European Labeling in accordance with EC directive (Water, I.M.O.)	Proper Shipping Name: Oxidizing solid, n.o.s. (calcium peroxide, dipotassium peroxodisulfate) Hazard Class: Oxidizer ID Number: UN 1479 Packing Group: II Division: 5.1 Marine Pollutant: No EmS: F-A, S-Q
European Labeling in accordance with EC directive (Air, I.C.A.O.)	Proper Shipping Name: Oxidizing solid, n.o.s. (calcium peroxide, dipotassium peroxodisulfate) Hazard Class: Oxidizer ID Number: UN 1479 Packing Group: II Division: 5.1

SECTION 15 REGULATORY INFORMATION

<p><u>US Federal Regulations</u></p> <p>TSCA: All components in this product are listed on the TSCA inventory.</p> <p>Health & Safety Reporting List: None of the chemicals in this product are on the Health & Safety Reporting List.</p> <p>Chemical Test Rules: None of the chemicals in this product are under a Chemical Test Rule.</p> <p>Section 12b: None of the chemicals in this product are listed under TSCA Section 12b.</p> <p>TSCA Significant New Use Rule: None of the chemicals in this product have a SNUR under TSCA.</p>



Aerobic Bioremediation Product

EC- SAFETY DATA SHEET according to EC directive 2001/58/EC MATERIAL SAFETY DATA SHEET

MSDS # CP-1003

Page 8 of 10

CERCLA Hazardous Substances and corresponding RQs:

None of the chemicals in this product have an RQ.

SARA Section 302 Extremely Hazardous Substances:

None of the chemicals in this product have a TPQ.

SARA Codes:

Non Applicable

Section 313:

None of chemicals in this product are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 or Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

FIFRA:

None of the chemicals in this product are found on the on the list of FIFRA Active Ingredients Of Registered Pesticides

State:

CAS# 7727-54-0 and CAS# 1305-79-9 are found on the on state list from NJ.

CAS# 7727-21-1 is found on the state lists from NJ, PA and MA.

California Prop 65:

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives:

HAZARD SYMBOLS:



O
Oxidizing



Xn
Harmful



Aerobic Bioremediation Product

EC- SAFETY DATA SHEET according to EC directive 2001/58/EC MATERIAL SAFETY DATA SHEET

MSDS # CP-1003

Page 9 of 10

RISK PHRASES:

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22 Harmful if swallowed.
36/37/38 Irritating to eyes, respiratory system and skin.
42/43 May cause sensitization by inhalation and skin contact

SAFETY PHRASES:

- 3 Keep out of reach of children
23 Do not breathe dust
24 Avoid contact with skin
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
37 Wear suitable gloves

WGK (Water Danger/Protection):

CAS# 7727-54-0, 7727-21-1 and CAS# 1305-79-9: Classification under hazard to water is 1 ([VwVwS](#): legally effective classification in annex 1 or 2 of the VwVwS) (Administrative Regulation on the Classification of Substances Hazardous to Waters into Water Hazard Classes)

Canada - DSL/NDSL:

All components are listed in DSL

Canada – WHMIS:

CAS# 7727-54-0, 7727-21-1 and CAS# 1305-79-9 in this product could be classified as Class C (oxidizing material) in accordance with the hazard criteria of the Controlled Products Regulations of Canada.

Canadian Ingredient Disclosure List:

None of the components in this product are listed on the Canadian Ingredient Disclosure List.

SECTION 16 OTHER INFORMATION

NIOSH:	National Institute for Occupational Safety and Health
MSHA:	Mine Safety and Health Administration
OSHA:	Occupational Safety and Health Administration
NTP:	National Toxicology Program
IARC:	International Agency for Research on Cancer
PEL:	Permissible Exposure Limit
DSL/NDSL:	The Domestic Substances and the Non-Domestic Substances List (Canada)
TLV-TWA:	Threshold Limit Value-Time Weighted Average
CAS:	Chemical Abstract Service
EINECS:	Inventory of Existing Chemical Substances (European) (EC. No.)



STIMULOX™

Aerobic Bioremediation Product

EC- SAFETY DATA SHEET according to EC directive 2001/58/EC
MATERIAL SAFETY DATA SHEET

MSDS # CP-1003

Page 10 of 10


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May 2008

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