

1. PRODUCT IDENTIFICATION

TRADE NAME (AS LABELED):

MicroBlend™

SYNONYMS:

None known

CAS#:

Mixture

PRODUCT USE:

MicroBlend™ stimulates microbial activity with micronutrients, vitamins and other cofactors that are not commonly found in simple substrates such as sodium lactate or emulsified vegetable oil.

CHEMICAL SHIPPING NAME/CLASS:

Non-Regulated Material

U.N. NUMBER:

None

MANUFACTURER'S NAME:

RNAS Remediation Products

ADDRESS:

6712 West River Road, Brooklyn Center, MN 55430

BUSINESS PHONE:

1-763-585-6191

EMERGENCY PHONE:

1-800-424-9300 (Chemtrec 24 Hr Service – Emergency Only)

DATE OF CURRENT REVISION:

January 16, 2016

DATE OF LAST REVISION:

June 11, 2014

2. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: This product is a medium brown slurry (liquid) with a slight odor.

Health Hazards: Not expected to cause adverse health effects when used as intended. Prolonged or repeated exposure may cause irritation to skin. Possible allergic vitamin B12 reaction. May cause irritation to eyes upon contact. Inhalation of vapors/sprays or mist may cause respiratory irritation. Ingestion of large amounts of this product may cause gastrointestinal irritation.

Flammability Hazards: This product is Non-Flammable liquid.

Reactivity Hazards: None known.

Environmental Hazards: The Environmental effects of this product have not been investigated. Release of this product is not anticipated to have significant adverse effects in the aquatic environment.

US DOT SYMBOLS

CANADA (WHMIS) SYMBOLS

EUROPEAN and (GHS) Hazard Symbols

None

Non-Regulated Material

"Not Controlled"

Signal Word: **None**

CLASSIFICATION OF SUBSTANCE OR MIXTURE IN ACCORDANCE WITH 29 CFR 1910.1200 (OSHA HCS) AND THE EUROPEAN UNION DIRECTIVES:

This product does not meet the definition of a hazardous substance or preparation as defined by OSHA in 29 CFR 1910.1200 or the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC and subsequent Directives.

EU HAZARD CLASSIFICATION OF INGREDIENTS PER DIRECTIVE 1272/2008/EC:

None of the ingredients are listed in Annex VI of Directive 67/548/EEC

Substances not listed either individually or in group entries must be self classified.

Component(s) Contributing to Classification(s):

All Ingredients

GHS Hazard Classification(s):

None known

Hazard Statement(s):

None known

Precautionary Statement(s):

None known

HEALTH HAZARDS OR RISKS FROM EXPOSURE:

SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE: The most significant routes of overexposure for this product are by contact with skin or eyes, inhalation of vapors and ingestion. The symptoms of overexposure are described below.

ACUTE:

INHALATION: Not expected to cause adverse health effects when used as intended. Inhalation of vapors/mist/spray may cause respiratory irritation.

CONTACT WITH SKIN: Not expected to cause adverse health effects when used as intended. Prolonged and repeated contact may cause irritation to skin.

EYE CONTACT: Direct eye contact can cause irritation with redness, tearing and blurred vision.

INGESTION: Under normal conditions of intended use, this material is not expected to be an ingestion hazard. Ingestion of large quantities may cause gastrointestinal irritation, nausea and vomiting.

CHRONIC: None known

TARGET ORGANS: **Acute:** Skin, Respiratory System and Eyes **Chronic:** None known

3. COMPOSITION AND INFORMATION ON INGREDIENTS

| Hazardous Ingredients: | WT% | CAS# | EINECS # | GHS Hazard Classification(s) |
|---|----------|-----------|-----------|------------------------------|
| Water | 60 - 65% | 7732-18-5 | 231-791-2 | Not Classified |
| Yeast Extract (Food Grade) | 35 – 40% | 8013-01-2 | 232-387-9 | Not Classified |
| Cyanocobalamin (Vitamin B-12) | 0.006% | 68-19-9 | 200-680-0 | Not Classified |
| Balance of other ingredients is less than 1% in concentration (or 0.1% for carcinogens, reproductive toxins, or respiratory sensitizers). | | | | |

NOTE: This product has been classified in accordance with the hazard criteria of 29CFR1910.1200 and the SDS contains all the information required by the CPR, EU Directives and the Japanese Industrial Standard JIS Z 7250: 2000.

4. FIRST-AID MEASURES

EYE CONTACT: If product enters the eyes, open eyes while under gentle running water for at least 15 minutes. Seek medical attention if irritation persists.

SKIN CONTACT: Wash skin thoroughly with soap and water after handling. Seek medical attention if irritation develops and persists.

INHALATION: If breathing becomes difficult, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention.

INGESTION: If product is swallowed, call physician or poison control center for most current information. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. Seek medical advice. Take a copy of the label and/or SDS with the victim to the health professional.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate overexposure.

5. FIRE-FIGHTING MEASURES

FLASH POINT: Non-Flammable.

AUTOIGNITION TEMPERATURE: Not Applicable.

FLAMMABLE LIMITS (in air by volume, %): Lower NA Upper NA

FIRE EXTINGUISHING MATERIALS: Use fire extinguishing methods below:

Water Spray: Yes

Carbon Dioxide: Yes

Foam: Yes

Dry Chemical: Yes

Halon: Yes

Other: Any "C" Class

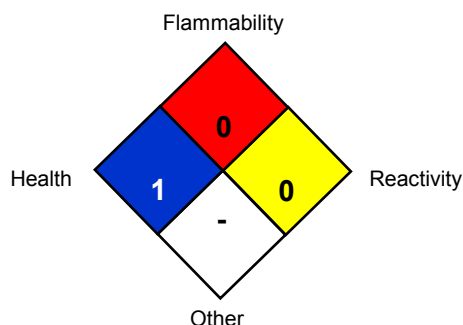
UNUSUAL FIRE AND EXPLOSION HAZARDS: Not considered a fire or explosion hazard.

Explosion Sensitivity to Mechanical Impact: No



Explosion Sensitivity to Static Discharge: No

SPECIAL FIRE-FIGHTING PROCEDURES: Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

NFPA RATING SYSTEM



HMIS RATING SYSTEM

| HAZARDOUS MATERIAL IDENTIFICATION SYSTEM | | | |
|---|-------------|---|------------|
| HEALTH HAZARD (BLUE) | | | 1 |
| FLAMMABILITY HAZARD (RED) | | | 0 |
| PHYSICAL HAZARD (YELLOW) | | | 0 |
| PROTECTIVE EQUIPMENT | | | |
| EYES | RESPIRATORY | HANDS | BODY |
|  | See Sect 8 |  | See Sect 8 |
| For Routine Industrial Use and Handling Applications | | | |

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Stop the flow of material, if this can be done safely. Contain discharged material. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Place in a proper container for disposal. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations and those of Canada and its Provinces, those of Australia, Japan and EU Member States (see Section 13, Disposal Considerations).

7. HANDLING and STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Use good hygiene practices.

STORAGE AND HANDLING PRACTICES: Store in original container. Keep container closed when not in use. Store in a cool, dry location. Avoid freezing or extended storage in high temperatures and away from incompatible materials.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

| Chemical Name | CAS# | ACGIH TLV | OSHA TWA |
|-------------------------------|-----------|------------|------------|
| Water | 7732-18-5 | Not Listed | Not Listed |
| Yeast Extract (Food Grade) | 8013-01-2 | Not Listed | Not Listed |
| Cyanocobalamin (Vitamin B-12) | 68-19-9 | Not Listed | Not Listed |

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided above.

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.

RESPIRATORY PROTECTION: Not required when using this product. Maintain airborne contaminant concentrations below guidelines listed above, if applicable. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states.

EYE PROTECTION: Safety glasses or goggles are recommended to avoid eye contact. If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian Standards, and the European Standard EN166, Australian Standards, or relevant Japanese Standards.

SKIN PROTECTION: Wear impervious gloves for prolonged or repeated exposure as appropriate to task when using this product. If necessary, refer to U.S. OSHA 29 CFR 1910.138, the European Standard DIN EN 374, the appropriate Standards of Canada, Australian Standards, or relevant Japanese Standards.

BODY PROTECTION: Use body protection appropriate to task being performed. If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards.

9. PHYSICAL and CHEMICAL PROPERTIES

APPEARANCE (Physical State) and COLOR: This product is a medium brown slurry (liquid) with a slight odor.

ODOR: Mild

ODOR THRESHOLD: Not Applicable

pH: 4.5 – 5.5

MELTING/FREEZING POINT: Not Available

BOILING POINT: Not Available

FLASH POINT: Not Applicable

EVAPORATION RATE (n-BuAc=1): Not Available

FLAMMABILITY (SOLID, GAS): Not Applicable

UPPER/LOWER FLAMMABILITY OR EXPLOSION LIMITS: Not Available

VAPOR PRESSURE (mm Hg @ 20°C (68°F)): Not Available

VAPOR DENSITY: Not Available

SPECIFIC GRAVITY: 1.11 @ 25°C

SOLUBILITY IN WATER: Dispersible in water

WEIGHT PER GALLON: 9.25 lbs/gal

PARTITION COEFFICIENT (n-octanol/water): Not Available

AUTO-IGNITION TEMPERATURE: Not Available

DECOMPOSITION TEMPERATURE: Not Available

VISCOSITY: Not Available

10. STABILITY and REACTIVITY

STABILITY: Stable under conditions of normal storage and use.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition products include oxides of carbon.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Strong oxidizing materials and acids.

POSSIBILITY OF HAZARDOUS REACTIONS: Will not occur.

CONDITIONS TO AVOID: Incompatible materials

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA:

No LD50 Data Available

SUSPECTED CANCER AGENT: Ingredients within this product are found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, or CAL/OSHA and therefore are considered to be, or suspected to be, cancer-causing agents by these agencies. CAS# 68-19-9:

- ACGIH: Not listed.
- California: Not listed.
- NTP: Not listed.
- IARC: Group 2B carcinogen (listed as Cobalt compounds)

IRRITANCY OF PRODUCT: No specific data available.

SENSITIZATION TO THE PRODUCT: This product is not a skin and respiratory sensitizer.

REPRODUCTIVE TOXICITY INFORMATION: No information concerning the effects of this product and its components on the human reproductive system.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL STABILITY: No specific data available on this product.

CHEMICAL EFFECT ON PLANTS, ANIMALS AND AQUATIC LIFE: This product is not expected to cause significant harm to plants, animals or aquatic life.

WATER ENDANGERMENT CLASS: Water endangering in accordance with EU Guideline 91/155-EWG – Not Determined.

SPECIFIC AVAILABLE COMPONENT INFORMATION: No additional data available at this time.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations, those of Canada, Australia, EU Member States and Japan.

EU Waste Code: Not determined

14. TRANSPORTATION INFORMATION

US DOT, IATA, IMO, ADR:

U.S. DEPARTMENT OF TRANSPORTATION (DOT) SHIPPING REGULATIONS: This product is classified (per 49 CFR 172.101) by the U.S. Department of Transportation, as follows.

PROPER SHIPPING NAME: Non-Regulated Material

HAZARD CLASS NUMBER and DESCRIPTION: None

UN IDENTIFICATION NUMBER: None

PACKING GROUP: NA

DOT LABEL(S) REQUIRED: None

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER: None

RQ QUANTITY: None

MARINE POLLUTANT: The components of this product are not designated by the Department of Transportation to be Marine Pollutants (49 CFR 172.101, Appendix B).

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is not considered as dangerous goods.

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): This product is not considered as dangerous goods.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This product is not considered by the United Nations Economic Commission for Europe to be dangerous goods.

15. REGULATORY INFORMATION

UNITED STATES REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS: The components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act as follows:

This material contains Cyanocobalamin (listed as Cobalt compounds), <0.006%, (CAS# 68-19-9) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for the components of this product. The default Federal SDS submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) therefore applies, per 40 CFR 370.20.

U.S. CERCLA REPORTABLE QUANTITY (RQ): None.

U.S. TSCA INVENTORY STATUS: The components of this product are listed on the TSCA Inventory or are exempted from listing.

OTHER U.S. FEDERAL REGULATIONS: None.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): Ingredients within this product are not on the Proposition 65 Lists.

CANADIAN REGULATIONS:

CANADIAN DSL/NDL INVENTORY STATUS: The components of this product are on the DSL Inventory, or are exempted from listing.

OTHER CANADIAN REGULATIONS: Not applicable.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations.

CANADIAN WHMIS CLASSIFICATION and SYMBOLS: Complies with WHMIS 2015

EUROPEAN ECONOMIC COMMUNITY INFORMATION:

This product does not meet the definition of a hazardous substance or preparation as defined by the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC and subsequent Directives.

See Section 2 for Details.

AUSTRALIAN INFORMATION FOR PRODUCT: The components of this product are listed on the International Chemical Inventory list.

JAPANESE INFORMATION FOR PRODUCT:

JAPANESE MINISTER OF INTERNATIONAL TRADE AND INDUSTRY (MITI) STATUS: The components of this product are not listed as Class I Specified Chemical Substances, Class II Specified Chemical Substances, or Designated Chemical Substances by the Japanese MITI.

JAPANESE ENCS INVENTORY: The components of this product are on the ENCS Inventory as indicated in the section on International Chemical Inventories, below.

POISONOUS AND DELETERIOUS SUBSTANCES CONTROL LAW: No component of this product is a listed Specified Poisonous Substance under the Poisonous and Deleterious Substances Control Law.

INTERNATIONAL CHEMICAL INVENTORIES:

Listing of the components on individual country Chemical Inventories is as follows:

Asia-Pac: Listed or Exempt from listing

Australian Inventory of Chemical Substances (AICS): Listed or Exempt from listing

Korean Existing Chemicals List (ECL): Listed or Exempt from listing

Japanese Existing National Inventory of Chemical Substances (ENCS): Listed or Exempt from listing

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed or Exempt from listing

Swiss Giftlist List of Toxic Substances: Listed or Exempt from listing

U.S. TSCA: Listed

16. OTHER INFORMATION

ABBREVIATIONS AND ACRONYMS:

EPA: United States Environmental Protection Agency

ARD: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

PREPARED BY: Paul Eigbrett – **(GHS MSDS Compliance PLUS)**

DATE OF PRINTING: January 16, 2016

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of the need that information is current, applicable and suited to the circumstances of use. RNAS Remediation Products assumes no responsibility for injury to vendee or third party person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, RNAS Remediation Products assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed.

END OF SDS SHEET