

SAFETY DATA SHEET



1. Identification

Product identifier RNA MICROPHOS 24 0-13-0
Other means of identification None.
Recommended use Ag Product - Plant Nutrition
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Company name RNA
Address RNA
22312 Railroad Avenue
San Joaquin, CA 93660
United States
Telephone RNA (559) 693-4520
E-mail SDS@RNASDS.com
Emergency phone number Chemtrec- Domestic (800) 424-9300
Chemtrec - International +1 703-741-5970

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Not classified.
Environmental hazards Not classified.
OSHA defined hazards Not classified.

Label elements

Hazard symbol None.
Signal word None.
Hazard statement The mixture does not meet the criteria for classification.
Precautionary statement
Prevention Observe good industrial hygiene practices.
Response Wash hands after handling.
Storage Store away from incompatible materials.
Disposal Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information None.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|--|--------------------------|------------|-----------|
| Dicalcium Phosphate | | 7757-93-9 | 40 - < 50 |
| Limestone | | 1317-65-3 | 30 - < 40 |
| Zinc Oxide | | 1314-13-2 | 10 - < 20 |
| Other components below reportable levels | | | 1 - < 3 |

Percentage ranges of composition to protect confidentiality or due to batch variation.

4. First-aid measures

Inhalation If dust from the material is inhaled, remove the affected person immediately 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.

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| Eye contact | Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists. |
| Ingestion | Rinse mouth. Get medical attention if symptoms occur. |
| Most important symptoms/effects, acute and delayed | Upper respiratory tract irritation. Irritation of eyes and mucous membranes. Coughing. Skin irritation. |
| Indication of immediate medical attention and special treatment needed | Treat symptomatically. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire-fighting measures

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| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire fighting equipment/instructions | Use water spray to cool unopened containers. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | No unusual fire or explosion hazards noted. |

6. Accidental release measures

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| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of dust from the spilled material. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Collect dust using a vacuum cleaner equipped with HEPA filter. Minimize dust generation and accumulation. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS. |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

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|---|---|
| Precautions for safe handling | Provide appropriate exhaust ventilation at places where dust is formed. Minimize dust generation and accumulation. Avoid breathing dust. Avoid contact with eyes. Avoid prolonged exposure. Practice good housekeeping. |
| Conditions for safe storage, including any incompatibilities | Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). |

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value | Form |
|----------------------------|------|----------------------|----------------------|
| Limestone (CAS 1317-65-3) | PEL | 5 mg/m ³ | Respirable fraction. |
| | | 15 mg/m ³ | Total dust. |
| Zinc Oxide (CAS 1314-13-2) | PEL | 5 mg/m ³ | Fume. |
| | | 5 mg/m ³ | Respirable fraction. |
| | | 15 mg/m ³ | Total dust. |

US. ACGIH Threshold Limit Values

| Components | Type | Value | Form |
|----------------------------|------|----------------------|----------------------|
| Zinc Oxide (CAS 1314-13-2) | STEL | 10 mg/m ³ | Respirable fraction. |

US. ACGIH Threshold Limit Values

| Components | Type | Value | Form |
|------------|------|---------|----------------------|
| | TWA | 2 mg/m3 | Respirable fraction. |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value | Form |
|----------------------------|---------|----------|-------------|
| Limestone (CAS 1317-65-3) | TWA | 5 mg/m3 | Respirable. |
| | | 10 mg/m3 | Total |
| Zinc Oxide (CAS 1314-13-2) | Ceiling | 15 mg/m3 | Dust. |
| | STEL | 10 mg/m3 | Fume. |
| | TWA | 5 mg/m3 | Fume. |
| | | 5 mg/m3 | Dust. |

Biological limit values

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

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) 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. Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn.

Individual protection measures, such as personal protective equipment

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

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other

Wear suitable protective clothing.

Respiratory protection

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

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.

9. Physical and chemical properties

Appearance White Powder

Physical state Solid.

Form Powder.

Color Off-white.

Odor Odorless.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

| | |
|---|----------------|
| Vapor density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | Soluble |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |

10. Stability and reactivity

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|------------------------------------|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Contact with incompatible materials. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). |
| Incompatible materials | Fluorine. |
| Hazardous decomposition products | Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition. |

11. Toxicological information

Information on likely routes of exposure

| | |
|--|---|
| Inhalation | Inhalation of dusts may cause respiratory irritation. Prolonged inhalation may be harmful. |
| Skin contact | No adverse effects due to skin contact are expected. |
| Eye contact | Dust in the eyes will cause irritation. |
| Ingestion | Expected to be a low ingestion hazard. |
| Symptoms related to the physical, chemical and toxicological characteristics | Irritation of eyes and mucous membranes. Upper respiratory tract irritation. Coughing. Skin irritation. |

Information on toxicological effects

Acute toxicity

| Components | Species | Test Results |
|-------------------------------------|---------|--|
| Dicalcium Phosphate (CAS 7757-93-9) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | > 2000 mg/kg, 24 Hours > 2000 mg/kg, 72 Hours |
| Inhalation | | |
| LC50 | Rat | > 2.6 mg/l, 4 Hours |
| Oral | | |
| LD50 | Rat | > 2000 mg/kg 7940 ml/kg |
| Zinc Oxide (CAS 1314-13-2) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rat | > 2000 mg/kg, 24 Hours |
| Inhalation | | |
| LC50 | Mouse | > 5.7 mg/l, 4 Hours 2500 mg/m3 |
| | Rat | > 5700 mg/m3, 4 Hours |

| Components | Species | Test Results |
|--------------|---------|---------------|
| Oral LD50 | Mouse | > 5000 mg/kg |
| | Rat | > 15000 mg/kg |
| | | > 5000 mg/kg |

* Estimates for product may be based on additional component data not shown.

| | |
|---|--|
| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. |
| Serious eye damage/eye irritation | Dust in the eyes will cause irritation. |
| Respiratory or skin sensitization | |
| Respiratory sensitization | Not available. |
| Skin sensitization | This product is not expected to cause skin sensitization. |
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| Carcinogenicity | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. |
| IARC Monographs. Overall Evaluation of Carcinogenicity | |
| Not listed. | |
| OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) | |
| Not regulated. | |
| US. National Toxicology Program (NTP) Report on Carcinogens | |
| Not listed. | |
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. |
| Specific target organ toxicity - single exposure | Not classified. |
| Specific target organ toxicity - repeated exposure | Not classified. |
| Aspiration hazard | Not available. |
| Chronic effects | Prolonged inhalation may be harmful. |
| Further information | This product has no known adverse effect on human health. |

12. Ecological information

| | |
|--------------------------------------|--|
| Ecotoxicity | The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |
| Persistence and degradability | No data is available on the degradability of this product. |
| Bioaccumulative potential | No data available. |
| Mobility in soil | No data available. |
| Other adverse effects | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. |

13. Disposal considerations

| | |
|--|--|
| Disposal instructions | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |
| Hazardous waste code | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | Dispose of 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 (see: Disposal instructions). |
| Contaminated packaging | Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings, if applicable, even after container is emptied. |

14. Transport information

| | |
|------------|-----------------------------------|
| DOT | Not regulated as dangerous goods. |
|------------|-----------------------------------|

IATA

Not regulated as dangerous goods.

IMDG

UN number UN3077
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. MIXTURE (Zinc Oxide), MARINE POLLUTANT

Transport hazard class(es)

Class 9

Subsidiary risk -

Packing group III

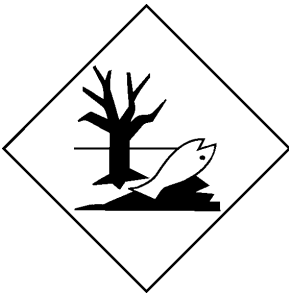
Environmental hazards

Marine pollutant Yes

EmS F-A, S-F

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

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

IMDG**Marine pollutant****General information**

IMDG Regulated Marine Pollutant.

15. Regulatory information**US federal regulations**

All components are on the U.S. EPA TSCA Inventory List.
 This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Zinc Oxide (CAS 1314-13-2) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**

Immediate Hazard - No
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No**SARA 313 (TRI reporting)**

| Chemical name | CAS number | % by wt. |
|----------------|------------|-----------|
| ZINC COMPOUNDS | 1314-13-2 | 10 - < 20 |

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.**US state regulations****US. California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | Yes |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

| | |
|----------------------|--|
| Issue date | 01-22-2015 |
| Revision date | 08-24-2017 |
| Version # | 02 |
| NFPA ratings | Health: 1 Flammability: 0 Instability: 0 |

NFPA ratings**Disclaimer**

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