

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : RONOZYME® HiPhos (GT)

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

Use of the Sub-stance/Mixture : Additive for animal nutrition to be used in feed

1.3 Details of the supplier of the safety data sheet

Company : DSM Nutritional Products
45 Waterview Blvd
US-07054-1298 Parsippany

Telephone : (908) 475-7373
Telefax : (908) 475-7406
E-mail address Responsible/issuing person : sds.nutritionalproducts@dsm.com

1.4 Emergency telephone number

1-800-424-9300 (24 HR CHEMTREC, CA & US); Outside CA & US +1-703-741-5970
(COLLECT CALLS ACCEPTED)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

DANGER	
Appearance	granules
Colour	off-white
Odour	No information available.

GHS Classification

Combustible dust :
Respiratory sensitisation : Category 1

GHS Label element

Hazard pictograms : 

Signal word : Danger

Hazard statements : May form combustible dust concentrations in air
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements : **Prevention:**
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P285 In case of inadequate ventilation wear respiratory protection.
Response:
P304 + P341 IF INHALED: If breathing is difficult, remove victim

to fresh air and keep at rest in a position comfortable for breathing.

P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Potential Health Effects

Inhalation : May cause allergic respiratory reaction.

Aggravated Medical Condition : None known.

Symptoms of Overexposure : Allergic reactions

Carcinogenicity:**IARC**

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Additional hazards and advice

Risk of dust explosion.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Brief description of the product : Mixture (preparation) containing an enzyme and auxiliary substances

Hazardous components

Component	CAS-No.	Weight percent
cellulose	9004-34-6	1 - 5
phosphatase, acid (6-phytase)	9001-77-8	1 - 5

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.

		If symptoms persist, call a physician.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Obtain medical attention.
Most important symptoms and effects, both acute and delayed	:	Allergic reactions
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES**Flammable properties**

Flash point : Not applicable

Fire fighting

Suitable extinguishing media : Water
Foam

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Consider dust explosion hazard.

Protective equipment and precautions for firefighters

Specific hazards during fire-fighting : None known.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.
Use personal protective equipment.
Ensure adequate ventilation.
Avoid dust formation.
Avoid breathing dust.

Environmental precautions : Do not flush into surface water or sanitary sewer system.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Pick up and arrange disposal without creating dust.
Keep in suitable, closed containers for disposal.

Avoid formation of dust and aerosols.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Avoid formation of respirable particles.
Avoid exceeding the given occupational exposure limits (see section 8).
For personal protection see section 8.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.
Smoking, eating and drinking should be prohibited in the application area.
- Advice on protection against fire and explosion : Avoid dust formation.
Provide appropriate exhaust ventilation at places where dust is formed.
Take precautionary measures against static discharges.
- Conditions for safe storage : Do not store for longer periods at temperatures above 30 °C.
Keep container tightly closed and dry.
- Storage temperature : < 77 °F (< 25 °C)

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
cellulose	9004-34-6	TWA	10 mg/m3	ACGIH
		TWA (Respirable)	5 mg/m3	NIOSH REL
		TWA (total)	10 mg/m3	NIOSH REL
		TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (respirable fraction)	5 mg/m3	OSHA Z-1

Personal protective equipment

- Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.
Suitable mask with particle filter P3 (European Norm 143)
- Hand protection : Glove material: for example nitrile rubber
Consider the hazard characteristics of this product and any special workplace conditions when selecting the appropriate type of protective gloves.
- Eye protection : Safety glasses with side-shields
- Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Avoid contact with skin, eyes and clothing.
Do not breathe dust or spray mist.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance : granules
Colour : off-white
Odour : No information available.
Odour Threshold : No information available.
pH : No data available
Melting point/range : not determined
Boiling point/boiling range : not determined
Flash point : Not applicable
Flammability (solid, gas) : May form combustible dust concentrations in air
Vapour pressure : Not applicable
Relative vapour density : Not applicable
Density : not determined
Water solubility : not determined
Partition coefficient: n-octanol/water : Not applicable
Auto-ignition temperature : No data available
Thermal decomposition : Not relevant
Explosive properties : Not explosive
Oxidizing properties : No data available

9.2 Other information

Combustibility index for deposited dust : 2 (22 °C)
: 2 (100 °C)
Dust explosion class : The sample could not be ignited under test conditions (Hartmann tube). (Milled sample, Median value of the tested sample 0.054 mm, Loss on drying 0.8 %)
Powder volume resistivity : 3E+09 Ohmm (Product sample, Median value of the tested sample 0.472 mm, Loss on drying 0.8 %)
Minimum ignition temperature of a dust/air mix : ≥ 500 °C (Median value of the tested sample 0.472 mm)
Product sample, determined in the BAM oven

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No hazards to be specially mentioned.
Chemical stability	: Stable under recommended storage conditions.
Possibility of hazardous reactions	: Dust may form explosive mixture in air.
Conditions to avoid	: Heat
Incompatible materials	: Strong acids and strong bases Strong oxidizing agents
Hazardous decomposition products	: No decomposition if used as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	: LD50 (Rat): > 2,000 mg/kg
Skin irritation	: Prolonged skin contact may cause skin irritation.
Eye irritation	: Dust contact with the eyes can lead to mechanical irritation.
Sensitisation phosphatase, acid	: May cause sensitisation by inhalation.
Carcinogenicity	: This information is not available.
Genotoxicity in vitro phosphatase, acid	: not mutagenic (Various test systems)
Reproductive toxicity	: This information is not available.
STOT - repeated exposure	: This information is not available.
Experience with human exposure: Skin contact phosphatase, acid	: Prolonged skin contact may cause skin irritation.
Experience with human exposure: Inhalation phosphatase, acid	: Inhalation may induce sensitization and may cause allergic reactions in sensitized individuals.

SECTION 12. ECOLOGICAL INFORMATION**Toxicity**

Toxicity to daphnia and other aquatic invertebrates : Daphnia (water flea)
EC50 > 100 mg/l

Toxicity to algae : Algae
IC50 > 100 mg/l

Persistence and degradability

Biodegradability : The organic components of the product are biodegradable.

Bioaccumulative potential

Bioaccumulation : No data available

Partition coefficient: n-octanol/water : Not applicable

Mobility in soil

Distribution among environmental compartments : No data available

Other adverse effects

Regulation 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : There is no data available for this product.

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : User must determine if any wastes generated exhibit hazardous characteristics as per 40 CFR Part 261 or other national / local legislation.

Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging : Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION**International Regulation****UNRTDG**

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations**49 CFR**

Not regulated as a dangerous good

Remarks : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION**TSCA list** : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act**CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.**Clean Air Act**

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

SAFETY DATA SHEET



RONOZYME® HiPhos (GT)

5014131

Version 2.1

Revision Date 12/16/2015

Print Date 11/11/2016

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

Massachusetts Right To Know

sodium sulphate	7757-82-6	70 - 90 %
cellulose	9004-34-6	1 - 5 %

Pennsylvania Right To Know

sodium sulphate	7757-82-6	70 - 90 %
Dextran	9004-54-0	1 - 5 %
cellulose	9004-34-6	1 - 5 %

New Jersey Right To Know

sodium sulphate	7757-82-6	70 - 90 %
Dextran	9004-54-0	1 - 5 %
cellulose	9004-34-6	1 - 5 %
Phosphatase, acid	9001-77-8	1 - 5 %

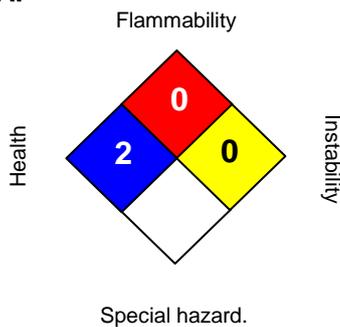
The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	0*
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Abbreviations: ACGIH = American Conference of Governmental Industrial Hygienists.
CERCLA = Comprehensive Environmental Response, Compensation and Liability Act. CFR = Code of Federal Regulations. CPR = Controlled Products Regulations. DSL = Canadian Do-

mestic Substance List. DOT = Department of Transportation. EINECS = European Inventory of New and Existing Chemical Substances. EPA = Environmental Protection Agency. HCS = Hazardous Communication Standard. HEPA = High Efficiency Particulate Air. HMIS = Hazardous Material Identification System. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IMDG = International Maritime Dangerous Good. NFPA = National Fire Protection Association. NIOSH = National Institute of Occupational Safety and Health. NJTSR = New Jersey Trade Secret Registry. NTP = National Toxicology Program. OSHA = Occupational Safety and Health Administration. SARA = Superfund Amendments and Reauthorization Act. TDG = Transportation of Dangerous Goods. TLV = Threshold Limit Value. TSCA = Toxic Substance Control Act. WHMIS = Workplace Hazardous Materials Information System.