

**GN BONE & SHELL PACK (1 LB/TON)****NP23637000**

Version 1.0

Revision Date 04/30/2014

Print Date 04/30/2014

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : GN BONE &amp; SHELL PACK (1 LB/TON)

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

Use of the Substance/Mixture : Premix for Animal Feeds

**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 : sds.nutritionalproducts@dsm.com  
 Responsible/issuing person

**1.4 Emergency telephone number**

Emergency # 1-800-424-9300 (24 HR CHEMTREC)

**SECTION 2. HAZARDS IDENTIFICATION****Emergency Overview****Warning**

Form: powder, Odour: No information available.

Hazard Summary : May cause cancer.  
 OSHA Hazards : COMBUSTIBLE DUST  
 CARCINOGEN  
 HARMFUL BY INGESTION.  
 MILD SKIN IRRITANT  
 SEVERE EYE IRRITANT  
 MILD RESPIRATORY IRRITANT

**Potential Health Effects**

Aggravated Medical Condition : Eyes  
 Eyes : Causes eye irritation.

Symptoms of Overexposure : No specific symptoms known.

**Carcinogenicity:**

**IARC** Group 1: Carcinogenic to humans  
 quartz (SiO<sub>2</sub>) 14808-60-7

**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.

**ACGIH** Suspected human carcinogen  
 quartz (SiO<sub>2</sub>) 14808-60-7

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**Additional hazards and advice**

Risk of dust explosion.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Brief description of the product : Mixture

**Hazardous components**

Component	CAS-No.	Weight percent
calcium carbonate	471-34-1	10 - 30
manganese sulphate	10034-96-5	10 - 30
zinc sulphate monohydrate	7446-19-7	10 - 30
Quartz (SiO <sub>2</sub> )	14808-60-7	0.1 - 1

**SECTION 4. FIRST AID MEASURES****First aid procedures**

- General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.
- Inhalation : Move to fresh air.  
Consult a physician after significant exposure.
- Skin contact : Take off contaminated clothing and shoes immediately.  
Wash off with soap and plenty of water.  
If symptoms persist, call a physician.
- Eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
Continue rinsing eyes during transport to hospital.  
Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
- Ingestion : 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.  
Do NOT induce vomiting.

**Notes to physician**

- Symptoms : No specific symptoms known.
- Treatment : Treat symptomatically.

**SECTION 5. FIREFIGHTING MEASURES****Flammable properties**

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Flash point : not applicable

**Fire fighting**Suitable extinguishing media : Water  
FoamFurther information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
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 firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

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

**SECTION 6. ACCIDENTAL RELEASE MEASURES**Personal precautions : 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 for containment /  
Methods for cleaning up : Pick up and arrange disposal without creating dust.  
Keep in suitable, closed containers for disposal.**SECTION 7. HANDLING AND STORAGE****Handling**Handling : Avoid formation of respirable particles.  
Avoid exceeding of the given occupational exposure limits (see section 8).  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Dispose of rinse water in accordance with local and national regulations.  
Do not breathe vapours/dust.  
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.**Storage**



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Requirements for storage areas and containers : Store at room temperature.  
Keep container tightly closed and dry.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Exposure Guidelines**

**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Update	Basis
calcium carbonate	471-34-1	TWA	5 mg/m3	2013-10-08	NIOSH REL
		Respirable			
		TWA	10 mg/m3	2013-10-08	NIOSH REL
		total			
manganese sulphate	10034-96-5	C	5 mg/m3	2006-02-28	OSHA Z-1
		Ceiling limit is to be determined from breathing-zone air samples.			
		Manganese			
		TWA	1 mg/m3	2013-10-08	NIOSH REL
		Manganese			
		ST	3 mg/m3	2013-10-08	NIOSH REL
		Manganese			
		TWA	0.1 mg/m3	2013-03-01	ACGIH
		Inhalable fraction			
		Manganese			
		TWA	0.02 mg/m3	2013-03-01	ACGIH
		Respirable fraction			
		Central Nervous System impairment 2013 Adoption varies			
		Manganese			
quartz (SiO <sub>2</sub> )	14808-60-7	TWA	0.025 mg/m3	2007-01-01	ACGIH
		Respirable fraction			
		Lung cancer Pulmonary fibrosis Suspected human carcinogen			
		TWA	30 mg/m3 / %SiO <sub>2</sub> +2	2011-07-01	OSHA Z-3
		total dust			
		TWA	250 mppcf / %SiO <sub>2</sub> +5	2011-07-01	OSHA Z-3
		respirable			
		Millions of particles per cubic foot of air, based on impinger samples counted by light-field techniques. The percentage of crystalline silica in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be			

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	applicable, mppcf X 35.3 = million particles per cubic meter = particles per c.c			
	TWA	10 mg/m3 / %SiO2+2	2011-07-01	OSHA Z-3
	respirable			
	Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size-selector with the following characteristics: Aerodynamic diameter (unit density sphere): 2; Percent passing selector: 90 Aerodynamic diameter (unit density sphere): 2,5; Percent passing selector: 75 Aerodynamic diameter (unit density sphere): 3,5; Percent passing selector: 50 Aerodynamic diameter (unit density sphere): 5,0; Percent passing selector: 25 Aerodynamic diameter (unit density sphere): 10; Percent passing selector: 0 The measurements under this note refer to the use of an AEC (now NRC) instrument. The respirable fraction of coal dust is determined with an MRE; the figure corresponding to that of 2.4 mg/m3 in the table for coal dust is 4.5 mg/m3.			
	TWA	0.1 mg/m3	1989-01-19	OSHA P0
	Respirable fraction			
	TWA	0.05 mg/m3	2006-09-01	NIOSH REL
	Respirable dust			
	Potential Occupational Carcinogen See Appendix A			
	TWA	0.1 mg/m3	1989-01-19	OSHA P0
	respirable dust fraction			

**NIOSH IDLH (Immediately Dangerous to Life or Health Concentrations)**

Substance name	CAS-No.	Control parameters
manganese sulphate	10034-96-5	Immediately Dangerous to Life or Health Concentration Value 500 milligram per cubic meter
quartz (SiO2)	14808-60-7	Immediately Dangerous to Life or Health Concentration Value 50 mg/m³

**Engineering measures**

For technical measures see section 7.

**Personal protective equipment**

- Eye protection : Safety glasses with side-shields  
Wear face-shield and protective suit for abnormal processing problems.
- 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.
- 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.

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Avoid contact with skin, eyes and clothing.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form : powder  
 Odour : No information available.  
 Odour Threshold : No information available.

**Safety data**

Flash point : not applicable  
 Thermal decomposition : No data available  
 Flammability (solid, gas) : Not classified as flammable as defined by the transport regulations.  
 Explosive properties : No data available  
 Oxidizing properties : No data available  
 Auto-ignition temperature : No data available  
 pH : No data available  
 Melting point/range : not determined  
 Boiling point/boiling range : not determined  
 Vapour pressure : not applicable  
 Density : not determined  
 Water solubility : not determined  
 Partition coefficient: n-octanol/water : not applicable  
 Relative vapour density : not applicable

**SECTION 10. STABILITY AND REACTIVITY**

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

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**SECTION 11. TOXICOLOGICAL INFORMATION**

- Acute oral toxicity  
calcium carbonate : LD50 (rat): 6,450 mg/kg
- manganese sulphate : LD50 (rat): 2,150 mg/kg
- zinc sulphate monohydrate : LD50 (rat): 1,710 mg/kg  
anhydrous substance
- Skin irritation : May cause skin irritation in susceptible persons.
- Eye irritation : May irritate eyes.
- manganese sulphate : May cause damage to organs through prolonged or repeated exposure.
- Experience with human exposure  
manganese sulphate : Overexposure may provoke the following symptoms:  
Blood disorders, Kidney disorders, Respiratory disorders,  
Disorders of the central nervous system

**SECTION 12. ECOLOGICAL INFORMATION****Toxicity**

- Toxicity to fish  
zinc sulphate monohydrate : Oncorhynchus mykiss (rainbow trout)  
LC50 (96 h) 0.43 mg/l
- Toxicity to daphnia and other aquatic invertebrates  
manganese sulphate : Daphnia magna (Water flea)  
EC50 (48 h) 8.3 mg/l

No data is available on the product itself.

**Persistence and degradability**

No data is available on the product itself.

**Bioaccumulative potential**

- Bioaccumulation : No data available  
Partition coefficient: n-  
octanol/water : not applicable

**Mobility in soil**

- Distribution among  
environmental compartments : No data available

**Results of PBT and vPvB assessment**



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Assessment : not applicable

**Other adverse effects**

Additional ecological information : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**SECTION 13. DISPOSAL CONSIDERATIONS**

Further information : Discharge into the environment must be avoided.  
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.

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

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

**SECTION 14. TRANSPORT INFORMATION**

**DOT**

UN Number : 3077

Description of the goods : Environmentally hazardous substances, solid, n.o.s.  
(zinc sulphate monohydrate, manganese sulphate)

Class : 9

Packing group : III

Labels : 9

Emergency Response : 171

Guidebook Number

Environmentally hazardous : yes  
zinc sulphate monohydrate, manganese sulphate

**IATA**

UN number : 3077

Description of the goods : Environmentally hazardous substance, solid, n.o.s.  
(zinc sulphate monohydrate, manganese sulphate)

Class : 9

Packing group : III

Labels : 9

Packing instruction (cargo aircraft) : 956

Environmentally hazardous : yes

**IMDG**

UN number : 3077

Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S.  
(zinc sulphate monohydrate, manganese sulphate)

Class : 9

Packing group : III

Labels : 9



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EmS Number 1 : F-A  
 EmS Number 2 : S-F

Marine pollutant : yes

**Special precautions for user**

Other information : No additional requirements.

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

**SECTION 15. REGULATORY INFORMATION**

OSHA Hazards : Combustible dust, Carcinogen, Harmful by ingestion., Mild skin irritant, Severe eye irritant, Mild respiratory irritant

CERCLA Reportable Quantity : 4453 lbs

zinc sulphate monohydrate 7446-19-7 1000 lbs

SARA 311/312 Hazards : Acute Health Hazard  
 Chronic Health Hazard

**EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO - KNOW**

SARA 302 Reportable Quantity : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

This material does not contain any components with a SARA 302 RQ.

SARA 304 Extremely Hazardous Substances : This material does not contain any components with a section 304 EHS RQ.

SARA 313 Components : The following components are subject to reporting levels established by SARA Title III, Section 313:

manganese sulphate 10034-96-5 < 1 Weight percent

zinc sulphate monohydrate 7446-19-7 < 1 Weight percent

zinc acetate dihydrate 5970-45-6 < 1 Weight percent

**Clean Air Act**

Ozone-Depletion Potential : 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).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):  
 manganese sulphate 24.9128 %

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).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.

**Clean Water Act**

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

zinc sulphate monohydrate 7446-19-7



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zinc acetate dihydrate 5970-45-6

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

zinc sulphate monohydrate 7446-19-7

zinc acetate dihydrate 5970-45-6

**US State Regulations**

**Massachusetts Right To Know**

Components : zinc sulphate monohydrate 7446-19-7  
 quartz (SiO<sub>2</sub>) 14808-60-7

**Pennsylvania Right To Know**

Components : calcium carbonate 471-34-1  
 manganese sulphate 10034-96-5  
 rice hulls  
 zinc sulphate monohydrate 7446-19-7  
 sodium sulphate 7757-82-6  
 Zinc acetate dihydrate 5970-45-6

**New Jersey Right To Know**

Components : calcium carbonate 471-34-1  
 manganese sulphate 10034-96-5  
 rice hulls  
 zinc sulphate monohydrate 7446-19-7  
 quartz (SiO<sub>2</sub>) 14808-60-7

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

**TSCA** Not On TSCA Inventory  
 rice hulls  
 Protein hydrolyzates, vegetable 100209-45-8  
 6-phytase 9001-89-2

**DSL** This product contains the following components that are not on the Canadian DSL nor NDSL.  
 rice hulls  
 Phosphatase, acid 9001-77-8  
 6-phytase 9001-89-2

**SECTION 16. OTHER INFORMATION**

**Further information**

HMIS Classification : Health hazard: 3  
 Chronic Health Hazard: \*  
 Flammability: 1

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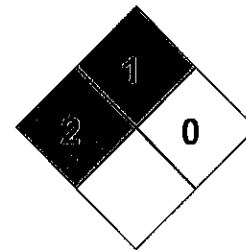
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NFPA Classification : Health hazard: 2  
Fire Hazard: 1  
Reactivity Hazard: 0



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.

E-mail address : sds.nutritionalproducts@dsm.com  
Responsible/issuing person

**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 Domestic 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.