

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Sodium Sulphate Anhydrous
 Synonyms: Disodium sulphate; Sulphuric acid, disodium salt; Sodium bisulphate

Recommended Use of the Chemical and Restrictions on Use:

Recommended Use: For use as an animal feed nutrient.

Restrictions on Use: Not for human consumption.

Details of the supplier of the safety data sheet

Supplier Pestell Nutrition
Address 141 Hamilton Rd
 New Hamburg, Ontario
 Canada, N3A 2H1

Phone 519-662-2877

Email qa@pestell.com

2. HAZARDS IDENTIFICATION

Emergency Overview: This product is not considered to be hazardous to health.

The product is a solid white granular powder that may be slightly irritating to the eyes and non - irritating to the skin and respiratory tract. The product is considered nontoxic so the toxicological properties have not been fully investigated.

Product is also hygroscopic but non - flammable and non - explosive.

GHS Label Elements, including Precautionary Statements:

WHMIS: Not a controlled substance.
 OSHA: Not hazardous, not classified.
 Signal Word — none required but WARNING or CAUTION may be used as the product can be an irritant.
 Hazard Statements — none required but can be an irritant.
 Label Symbols — none required.
 Label Precautionary Statements — none required although general first aid, PPE, personal hygiene, handling, storage and other statements can be made.

Potential Health Effects:

Acute:	Eye:	May cause slight eye irritation.
	Skin:	May cause slight skin irritation.
	Inhalation:	May cause slight respiratory passage irritation.
	Ingestion:	May cause gastrointestinal irritation and discomfort.
Chronic:	None known.	

Other Hazards:

Not applicable Product is not hazardous, is not a controlled substance.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Identity: Sodium Sulphate Anhydrous
Detergent grade minimum 99 wt. % Na₂SO₄
Other grades minimum 98 wt. % Na₂SO₄

Common Name. Synonyms etc.

Sodium sulphate, Saltcake, Bisodium sulphate, Disodium monosulphate, Dibasic sodium sulphate.

CAS Number and Other Unique Identifiers:

CAS Number: 7757 -82 -6
EC (EINECS) Number: 231 -820 -9
Icsc Number: 0952
RTECS# WEI 650000
Chemical Formula: Na₂SO₄
Molecular Weight: 142.04

Impurities and Stabilizing Additives:

Product does not contain other substances at concentrations considered to be hazardous to health.

4. FIRST AID MEASURES

Necessary Measures:

Eye Contact: Rinse cautiously with plenty of water for several minutes. Remove contact lenses, if worn, and if easy to do so. Seek medical attention if eye irritation persists.

Skin Contact: Rinse with water, then wash exposed area with soap and water. Seek medical attention if skin irritation occurs.

Inhalation: Not expected to require first aid measures. Move to fresh air if breathing affected. Seek medical attention immediately if symptoms occur.

Ingestion: Rinse mouth with water, and drink 1-2 glasses of water to dilute. If large amounts were swallowed (>15g) get medical advice.

Important Symptoms/ Effects:

Acute: No information available.

Delayed: No information available.

Medical Attention and Treatment:

Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable Extinguishing Media: Any means suitable for surrounding fire.

Unsuitable Extinguishing Media: No information available.

Specific Hazards Arising from the Chemical:

May produce irritating or hazardous oxides when heated to decomposition (1100 C) by surrounding fire.

Special Protective Equipment and Precautions for Fire-Fighters:

As in any fire, wear approved self-contained pressure demand breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures:

Provide adequate ventilation and wear appropriate personal protective equipment.

Environmental Precautions: Do not discharge directly into water or sewer.

Methods and Materials for Containment and Cleaning Up:

Product is a solid material so containment not normally required. Avoid dust formation. Shovel, sweep or vacuum spillage and place into covered containers for reuse and/or disposal. Product can be moistened if necessary to minimize dust formation. Neutralizing chemicals not required. Subject to applicable regulations, waste material is typically disposed of by burial in a landfill.

7. HANDLING AND STORAGE

Safe Handling Precautions:

Wear appropriate protective equipment. Avoid contact with skin, eyes, or clothing. Minimize dust formation and avoid inhalation and ingestion. Follow good industrial hygiene and safety practices.

Safe Storage Conditions and Incompatibilities:

Product is very hygroscopic. Store in a dry location and/or in a tightly closed container to minimize caking and dusting. No available data on incompatibilities.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: This product does not contain any hazardous materials with occupational exposure or biological limit values established by regulatory bodies. Refer to applicable nuisance dust guidelines.

Engineering Controls: Ventilation to dilute dust concentrations is generally a satisfactory health hazard control for this substance. A local exhaust system can be considered if there is worker discomfort. Provide safety shower and eye wash for emergencies.

Individual Protection Measures:

Eye/Face Protection: Appropriate safety glasses or goggles can be worn to avoid accidental eye contact or for unusually dusty conditions.

Respiratory Protection: Nuisance dust/mist respirator/mask may be worn in unusually dusty conditions or if irritation or other symptoms occur.

Skin and Body Protection: Not normally required. When appropriate, use work glove for dry product and rubber/neoprene gloves for solution.

9. PHYSICAL AND CHEMICAL PROPERTIES

<u>Appearance:</u>	Crystalline solid white granular powder.
<u>Odour:</u>	Odourless to slight characteristic odour.
<u>Odour Threshold:</u>	Not applicable.
<u>pH:</u>	5 to 9 for 1% solution - varies with concentration.
<u>Melting Point:</u>	884 C
<u>Freezing Point:</u>	Not applicable.
<u>Boiling Point:</u>	Decomposition occurs above 884 C.
<u>Boiling Range:</u>	Not applicable.
<u>Flash Point:</u>	None.
<u>Evaporation Rate:</u>	Not applicable.
<u>Flammability:</u>	Not flammable.
<u>Flammability Limits:</u>	Not applicable.
<u>Vapor Pressure:</u>	No data expected to be extremely low.
<u>Vapor Density:</u>	Not applicable.
<u>Relative Density:</u>	2.664
<u>Solubilities:</u>	Water — soluble with inverse solubility curve. Alcohol — insoluble.
<u>Partition Coefficient:</u>	log P _{ow} - no data available.
<u>Auto -Ignition Temperature:</u>	Not flammable.
<u>Decomposition Temperature:</u>	Decomposes at 1100 C.
<u>Viscosity:</u>	Not applicable — solid.

10. STABILITY AND REACTIVITY

<u>Reactivity:</u>	No available data.
<u>Chemical Stability:</u>	Stable under normal storage conditions.
<u>Hazardous Reactions:</u>	Normally none, but reacts violently (explodes) when melted with magnesium or aluminum.
<u>Conditions to Avoid:</u>	Moisture/water, high temperatures.
<u>Incompatible Materials:</u>	Avoid contact with oxidizing agents, strong acids, aluminium and/or magnesium.
<u>Hazardous Decomposition Products:</u>	Sulphur oxides, sodium oxides in fire conditions.

11. TOXICOLOGICAL INFORMATION

<u>Exposure Routes:</u>	
Eye Contact:	Airborne dust or splashed solutions.
Skin Contact:	Airborne dust or splashed solutions.
Inhalation:	Airborne dust.
Ingestion:	Inadvertently or unintentionally swallowed dry product or solutions.
<u>Symptoms:</u>	
Eye Contact:	May cause slight eye irritation.
Skin Contact:	May cause slight skin irritation.

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Inhalation: May cause slight respiratory passage irritation.
Ingestion: Slowly absorbed from the alimentary tract. Because of osmotic activity, it will draw water into the lumen of the bowel and, in sufficient quantity, may cause purging and fluid loss.

Effects:

Chronic Effects: No long term effects are expected (Source: Kelada and Euinton Journal of Occupational Medicine, 12, 812, 1978).

Skin Sensitization Potential: Highly unlikely.
Subacute or Subchronic Toxicity: No available data.
Carcinogenicity: Not identified as a probable or confirmed human carcinogen by IARC, ACGIH, NTP, OSHA.
Genotoxicity (Mutagenicity): No data other than negative Ames test.
Fertility: Limited data of poor validity.
Teratogenicity: Limited data of poor validity.
Phototoxicity or Photosensitivity: No available data.
Toxicokinetics: Absorption through skin can be ignored because fully ionized in solution. Sulphates found in all body cells with biggest concentration in connective tissue, bones, and cartilage. High levels of sulphate in urine may result from dust inhalation. For oral, excretion is mainly in the urine.
Dermal Bioavailability: No available data.
Other Adverse Effects: Toxicological properties have not been fully investigated but, based on the weight of evidence the conclusion is that the identified data gaps need not necessarily be filled.

Numerical Toxicity Measures:

Acute Toxicity: LD50 not reliably established but probably far in excess of 5000 mg/kg. Human oral dose of 300 mg/kg bodyweight up to 20 gm well tolerated, as is daily dose of 25 mg/kg. No data for dermal but not expected to be of concern. Aerosol inhalation found no adverse effect at 10ug/m³. WHO/FAO did not set an ADI for this product.

Ref. Okahara 1963 LD50 (oral, mouse) non - standard 5989 mg/kg bw
Ref. Henkel LD50 (oral, rat) >10 000 mg/kg bw

12. ECOLOGICAL INFORMATION

Ecotoxicity:

LC50 Fish : Pimephales promelas 96h = 7960 mg/l
Based on EPA/600/4 - 90/027 (1991)
EC50 Daphnia : Daphnia magna 48h = 4580 mg/l
Based on EPA/600/4 - 90/027 (1991)
EC50 Algae : Nitzschia linearis 120h = 1900 mg/l
Based on Cairns et al (1964)
EC50 Bacteria : Stalked cilia NOEC ca. 8 gn
Bacteria and motile protozoa NOEC ca. 26 g/l
37 days test with increasing concentration.

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LC50 Sediment Organisms:	Trycorythus sp. 96h = 660 mg/l Semi static test in river water.
Terrestrial Plants:	Picea banksiana root effects at 1.4 g/l Test with seeds in sand.
<u>Persistence and Degradability:</u>	No information chronic or longer term toxicity.
<u>Bioaccumulative Potential:</u>	BCF 0.5 — predicted using the EPI Suite program. This is very low and does not suggest any concern.
<u>Mobility in the Soil:</u>	Product soluble so expected to move with water in soil.
<u>Other Adverse Effects:</u>	No available data.

13. DISPOSAL CONSIDERATIONS

<u>Waste Disposal Methods:</u>	Product supplied is not a hazardous waste but could become a hazardous waste after mixing or coming in contact with a hazardous waste. Subject to applicable regulations, small amounts of waste material are normally disposed along with ordinary waste in landfills, but large amounts may require disposal at approved facilities.
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14. TRANSPORT INFORMATION

UN Number:	Not assigned.
UN Proper Shipping Name:	Not regulated for transport.
Transport Hazard Classes:	Not regulated.
Packing Group:	Not applicable.
Environmental Hazards:	Not regulated.
Bulk Transport:	Not regulated.
Special Precautions:	Not applicable.
IATA:	Not regulated.

15. REGULATORY INFORMATION

International Inventories:		
Australia:	AIC	Listed.
Canada:	DSL	Listed.
Canada:	NDSL	Not listed.
China:	IECSC	Listed.
EU	ENECS	Listed.
Japan:	ENCS	Listed.
Korea:	KECI	Listed.
New Zealand:	NZIOC	Listed.
Philippines:	PICCS	Listed.
Taiwan:	NECI	Listed.
United States:	TSCA	Listed.

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US Federal Regulations:

SARA 311/312 Hazardous Categorization

Acute Health Hazard	No.
Chronic Health Hazard	No.
Fire Hazard	No.
Sudden Release of Pressure Hazard	No.
Reactive Hazard	No.

SARA 313 Toxic Chemicals Product not listed in Title III.

Clean Water Act Product not listed here or Safe Drinking Water Act.

State Right-to-Know Product not listed on California Proposition 65.

Canada: Not WHMIS controlled.

16. OTHER INFORMATION

National Fire Protection Association (NFPA):

Health	
Flammability	
Instability/Reactivity	
Special Hazards	x

Hazardous Materials Identification System (HMIS):

Health	
Flammability	
Physical Hazard	
Personal Protection	x

Disclaimer

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Pestell Nutrition and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

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