



SOY BEST®

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200 (g) and GHS Rev 03.

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1. Identification

- **Product Identifier- Trade Name:** **Whole Grain Soybean**
- **Intended Use:** Food, Further Manufacturing
- **Manufacturer:** Grain States Soya, Inc.
PO Box 157, 400 Johnson Road
West Point, NE 68788
402-372-2429
- **Emergency telephone number:** 402-372-2429

2. Hazard(s) Identification

- **Classification:** Combustible dust/Respiratory hazard when small particles are generated during further processing, handling or by other means.



Class 2B Eye Irritant

- **Label Elements:** HCS label Not Applicable due to FDA Labeling Exemption.
- **Hazard Statement(s):** May cause breathing difficulties if inhaled. If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.
- **Precautionary Statement (s):** May be mechanical eye irritant. Rinse eyes with water for several minutes. Avoid breathing dust. Excessive inhalation may affect nose, throat and lungs. Avoid breathing dust. Excessive inhalation may affect nose, throat and lungs. Avoid ignition sources: grain dust may burn if suspended in air and may create a flash fire/explosion hazard.
- **Emergency Overview:** Dust from particulates may be a mechanical irritant to eyes. Excessive inhalation of grain dusts may affect nose, throat and lungs. May form combustible dust concentration in air; See "Explosion Hazard" below.
- **Explosion Hazard:** Grain is generally considered not hazardous, but dust generated through downstream activities that may reduce its particle size (E.G., Shipping, handling, transfer to bins, etc.) may create a hazardous condition.
If exposed to an ignition source, dust may burn. Airborne dust in sufficient concentrations when exposed to an ignition source may flash or, in a confined situation, may fuel an explosion.

3. Composition/Information on Ingredients

Component	CAS	Concentration
Whole Grain Soybean		Up to 100%
Foreign material (Such as organic plant material		0-5%



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Grain Soybean dust

0-5%

4. First-Aid measures

- **Inhalation:** Move to fresh air. Seek medical attention for any breathing difficulty.
- **Eye contact:** Rinse opened eye thoroughly with water for 15 minutes. Seek medical attention as needed.
- **Ingestion:** If swallowed, rinse mouth with water and give several glasses of water to dilute. Never give anything by mouth to an unconscious person. Seek medical attention as needed.
- **Skin contact:** Wash skin with soap and water. Seek medical attention if irritation, Redness or rashes develop.
- **Symptoms/effects:
(acute and delayed)** No further relevant information available.

5. Fire Fighting Measures

- **Suitable Extinguishing Media:** Extinguish with water fog, dry chemical powders or foam.
- **Unsuitable Extinguishing Media:** Do not use strong streams of water or dry chemical if dust can be dispersed into the air. Dust placed in suspension with an ignition source present may flash or explode.
- **Hazardous Combustion products:** *Whole Grain is not explosive.* Explosion hazard may exist for combustible dusts of certain particle size and moisture content when suspended in air at certain concentrations and subjected to an ignition source.

6. Accidental Release Measures

- **Personal Precautions/Personal Protective Equipment/Emergency Procedures:** Use Personal Protective Equipment according to section 8. Avoid dust formation.
- **Methods and Materials for containment/Safe Storage:** Clean up with soft bristle broom(s) or a vacuum approved for a class II hazardous location. Dust deposits should be maintained to a minimum on surfaces, as these could form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (IE: cleaning dust surfaces with compressed air in the presence of ignition source/s should not be allowed). Non-Sparking tools should be used.
- **Cleanup:** Use the appropriate tools to collect the material and dispose of it in an approved waste disposal container. Dispose contaminated material as waste according to section 13.



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7. Handling and Storage

- **Handling:** Prevent formation of dust where possible. Avoid dispensing dust in air and exposure to potential ignition sources. Remove grain soybean dust from area/processing equipment prior to using any heat producing equipment such as arc welders, cutting torches and spark/heat producing tools such as portable surface grinders.
- **Storage:** Store in a dry place, preferably a bin or flat storage facility.

8. Exposure Controls/Personal Protection

- **Exposure controls/PPE:** Evaluate hazard assessment to determine PPE. PPE that should be considered are; safety glasses, gloves and respiratory protection. Respiratory PPE such as an approved NIOSH dust respirator whenever dust concentrations in the work area are above ACGIH TLV/OSHA PELs. OSHA PEL is 15 MG/M3 and 5 MG/M3 is respirable. ACGIH TLV is 10 MG/M3. *Caution:* High dust exposure should be avoided by individuals with pulmonary disorders. Dust may cause irritation of the nasal membranes or the upper respiratory tract.
- **General Protective and Hygienic measures:** Wash hands before breaks and at end of work. Avoid contact with the eyes and skin.
- **Ventilation/Mechanical:** Use exhaust systems as a form of ventilation. Use dust collection systems in accordance with OSHA regulations.
 - Ensure that dust handling systems (IE: Ducts, dust collectors, vessels and processing equipment) are designed in a manner to prevent the escape of dust into the work areas. Use only appropriately classified electrical equipment and powered industrial trucks.

9. Physical and Chemical Properties

- **Appearance:** Natural Grain Soybean tan color
- **Grain Dust:** Light, Grayish or Brown powder
- **Odor:** No distinct odor (out-of-condition products may be sour or musty)
- **Odor Threshold:** N/A
- **PH:** N/A
- **Melting Point/Boiling Point:** N/A
- **Flash Point:** N/A
- **Flammable limits:** LEL-N/A, UEL-N/A

When Soybean grain dust is dispersed into the air in sufficient concentrations, grain dust can explode in the presence of an ignition source. Do not allow Soybean grain dust to become dispersed into the air, even by the extinguishing agent. Minimum explosive concentration is 55 G/M3. Moisture content, particle size, caloric properties and specific ingredients also affect the explosiveness of grain dust.

For an explosion to occur, four conditions must exist: First, oxygen must be present. Second, there must be an ignition source (E.G. Included but not limited to; Electrical short, sparks, etc.). Third, there must be fuel (E.G. Grain Soybean dust in suspension). Fourth, there must be containment of suspended grain dust (E.G. Silo, Vessel, indoors, etc.). Although an explosion will not occur if there is no containment, the dust can still ignite, resulting in a fire.



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As noted, explosions are dependent upon the concentration of the fuel (E.G. Grain Soybean dust) suspended in air. The minimum explosive concentration (MEC) for grain dust is around 55 G/M³. The MEC varies according to the particle size and caloric properties of the product. In addition, the specific ingredients of the grain dust will affect the MEC. Therefore, the listed MEC range would be appropriate.

The following insert taken from "Preventing grain dust explosions" explains explosive limits for grain dust:

"A Texas A&M University dust control scientist suggests that the MEC range is about 50 to 150 grams per cubic meter, depending on the type of dust and the size of particles (Parnell, 1998). This equates to the same MEC level used by the National Grain and Feed Association (NGFA). NGFA states that the broad, generally accepted MEC for grain dust explosions is about 0.05 ounces per cubic foot of volume. It says that the optimum explosive concentration (DEC) is about 0.5 to 1.0 ounces per cubic foot-About 10 times the MEC (Gillis, 1985, P.43)

- **Vapor Pressure:** N/A
- **Vapor Density:** N/A
- **Partition Coefficient:** N-octanol/water: N/A
- **Relative Density:** 100% of contents
- **Auto-ignition temperature:** Unknown
- **Decomposition temperature:** Not determined
- **Viscosity:** N/A

10. Stability and Reactivity

- **Reactivity:** Stable
- **Chemical Stability:** Stable
- **Hazardous Reactions/Conditions to Avoid:** Dispersing dust in air above MEC, and exposure to potential ignition sources
- **Hazardous decomposition:** CO₂, H₂S and Oxygen Deficient atmosphere under improper storage conditions
- **Incompatible materials:** Unknown

11. Toxicological Information

- **Routes of Entry:** Inhalation, Skin and Eyes. Ingestion not likely.
- **Carcinogenicity Categories:** NTP-No, IARC Monographs-No, OSHA regulated-No
- **Acute:** May be mechanical irritant to skin and eyes. Excessive inhalation of grain dusts may affect the nose, throat, and lungs.
- **Chronic:** Repeated and prolonged inhalation of grain dusts may affect the respiratory system. Smokers have an increased risk of respiratory effects.
- **Signs and Symptoms of Exposure:** Irritation to the skin, eyes, nose or throat may occur. Some individuals may experience coughing.
- **Medical Conditions generally aggravated by exposure:** Allergies and respiratory ailments.

12. Ecological information

- **Non-Mandatory**



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13. Disposal Considerations

- Non-Mandatory

14. Transport Information

- Non-Mandatory

15. Regulatory Information

- All electrical equipment must be suitable for use in hazardous atmospheres involving combustible dust if accordance with 29 CFR 1910.307. The National Electrical Code NFPA 70, contains guidelines for determining the type and design of equipment and installation, which will meet this requirement.
- **Sara 302-Extremely Hazardous Substance-** Not Listed
- **Sara 311/312:** N/A

16. Other Information

- This Safety Data Sheet covers Whole Grain Soybean in its natural state and does not include chemicals that may be applied by subsequent handlers and/or distributors of this product. The information and recommendations listed on this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. The information was obtained from sources that we believe are reliable; however, the information is provided without any representation or warranty, expressed or implied, regarding the accuracy or correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with the handling, storage, use, or disposal of this product. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

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