



SAFETY DATA

Issue Date: 10/15/2023

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PK FORCE DS (Powder Formulation)
Grades: Biological / Microbial Inoculant
Product use: Seed treatment
SDS Number: PKDS23-1 **Revision Number:** 2.0(2023)

Supplier:
SMART MICROBES LLC.
ADDRESS: 6521 AMIE LANE
PEARLAND, TX 77584 - USA.

Recommended use: Agriculture use
Further information obtained from: Product Safety Department
Emergency response contact information: (832)637-7126
Emergency telephone number (Texas Poison Center): 1-800-222-1222
Email: info@smartmicrobes.com

SECTION 2. HAZARD IDENTIFICATION CLASSIFICATION

Classification of the substance or mixture:
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Eye irritation (Category 2B) H320
Carcinogenicity (Category 1A), H350
Specific target organ toxicity - repeated exposure, inhalation (Category 2) H373

GHS Label elements, including precautionary statements

Pictograms:

Signal word: Danger

Hazard statement(s): May form combustible dust concentrations in air.
H320 Causes eye irritation.
H350 May cause cancer.
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

Precautionary statement (s):
P102 Keep out of reach of children

P201 + P202

P260
P264
P270
280
P305 + P351 + P338

P308 + P313
P314
P337 + P313
P405
P501

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Do not breathe dust.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear eye protection / face protection. Wear protective gloves.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If exposed or concerned; Get medical advice / attention.
Get medical advice / attention if you feel unwell.
If eye irritation persists: Get Medical advice.
Store locked up.
Dispose of contents / container in accordance with local regulation.

Hazards not otherwise classified (HNOC) or not covered by GHS

Chronic exposure may cause dry skin or skin irritation.
Prolonged and / or massive exposure to dust containing respirable crystalline silica may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances: Multi-mineral mixture and Beneficial Microbes

Hazardous components:

Relevant ingredients:	CAS#	Concentration % w/w
Talc	14807-96-6	40-80
Crystalline silica	14464-46-1	0.1-10
Graphite	7782-42-5	1-20
Beneficial Microbes	NA	1-20

Ingredients not specifically listed are non-hazardous and are considered to be confidential business information under 29 CFR 1910.1200 (i)
See Section 8 for exposure limits.

SECTION 4. FIRST AID MEASURES

Eye contact: Immediately flush with copious amounts of water for 15 minutes. If irritation persists, contact physician.

Skin contact: Wash thoroughly with soap and water.

Inhalation: Remove person to fresh air. If not breathing, give artificial respiration. If irritation persists, contact physician.

Ingestion: Give glass of water if the victim is conscious. Never give water to an unconscious person.
DO NOT INDUCE VOMITING unless told to do so by the Poison Control Center or physician. If vomiting occurs naturally, rinse mouth and repeat administration of water. Contact physician or Poison Control Center.

SECTION 5. FIRE FIGHTING MEASURE.

General hazards: Active ingredients does not burn or support combustion.

Extinguishing Media: Use media appropriate for the surrounding fire (water spray, alcohol-resistant foam, dry chemical or carbon dioxide).

Flammability classification (29 CFR 1910.1200): Active ingredients are non-flammable.

Unusual fire and explosion hazards: Under thermal decomposition product may emit toxic fumes of metal and carbon oxides.

Protective equipment and precautions for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA / NIOSH (approved or equivalent and full protective gear).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid breathing vapors or mist. Ensure adequate ventilation. For personal protection, see Section 8.

Environmental precautions: Prevent leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Land spill: Isolate spill area. When necessary confine spill with dike area. Shovel, vacuum or sweep up the spilled material including absorbent into a plastic container and dispose in accordance with applicable local regulations. Avoid contamination of water bodies (streams, lakes, etc.) and sewers during cleanup and disposal. Use protective clothing and gloves if skin or eye contact is possible. Wear NIOSH approved respirator and eye protection if aerosol is generated.

Spillage into water: Where possible remove containers with product from the water. Advise local water authorities of spillage.

Reference to other sections: For disposal see Section 13.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling: Avoid getting the product on or in you during handling. Wash hands after handling. Do not eat, drink or smoke while handling the product (see Section 8 for details).

Precautions for storing: Keep out of reach of children. DO NOT Store with food, feed, or other materials for human or animal consumption. DO NOT store in direct sunlight. Keep container tightly closed. Store in a clean, dry place at temperature between 40°F (5°C) and 110°F (43°C).

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Permissible concentrations: Based on the presence of micronutrients.

Ingredient	CAS #	OSHA PEL	ACGIH TLV	UN Class
Talc	14807-96-6	2 mg/m ³ (respirable dust)	2 mg/m ³ (respirable dust)	Not Listed
Crystalline silica	14464-46-1	0.1 mg/m ³ (respirable dust)	0.025 mg/m ³ (respirable dust)	
Graphite	7782-42-5	TWA: 15 mg/m ³ total dust	2 mg/m ³ respirable particulate	Not Listed

Engineering controls: Not required under normal conditions. If eye or skin contact can occur, washing facility for eyes and skin should be available nearby.

Respiratory protection: General ventilation is sufficient for intended use. Use NIOSH / MSHA - approved respirator if dust conditions exist and whenever workplace conditions warrant respirator use.

Hand protection: Not required under normal conditions. Recommended for repeated or prolonged skin contact and for workers with dermatitis.

Eye protection: Not required under normal conditions. Splash guard goggles recommended if dust conditions exist.

Skin and body protection: Not required under normal conditions. Use protective clothing to prevent repeated or prolonged skin contact.

Personal hygiene: Avoid getting the product on or in you. Wash hands after handling. Do not eat, drink or smoke while handling the product.

SECTION 9. PHYSICAL / CHEMICAL PROPERTIES

Appearance:	No data available
Odor:	Mild odor
pH:	Not applicable
Melting Point:	No data available
Boiling Point:	No data available
Flash Point:	No data available
Upper/Lower flammability:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Density/Relative density:	Not applicable
Solubility(ies):	Forms suspension in water
n-octanol/water partition coefficient:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Odor threshold:	No data available
Evaporation rate:	No data available
Flammability:	No data available
Viscosity:	No data available

SECTION 10. STABILITY AND REACTIVITY

Chemical stability: Stable under recommended storage conditions.

Conditions/Materials to avoid: None known.

Anticipated hazardous decomposition products: No data available. In the event of fire, the product may emit toxic fumes of metal and carbon oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

Ingestion: Not classified.

Skin irritation/corrosion: Not classified.

Eye damage/irritation: Causes eye irritation.

Respiratory sensitization: Not classified.

Skin sensitization: Not classified.

Carcinogenicity: May cause cancer.

Crystalline silica (silicon dioxide) is classified as group 1 (carcinogenic to humans) but in a calcinated diatomaceous earth is classified as group 3 (not classifiable as to its carcinogenicity to humans) by IARC, silicon dioxide is classified as known carcinogen by NTP. 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.

Reproductive toxicity: Not classified.

Specific target organ toxicity – single exposure: Not classified.

Specific target organ toxicity – repeated exposure: May cause damage to organs through prolonged or repeated exposure if inhaled.

Aspiration hazard: Not classified.

SECTION 12. ENVIRONMENTAL INFORMATION

Ecotoxicity: At recommended rates PK-FORCE is not phytotoxic or harmful to the environment. Elements present in the product are essential for healthy growth of plants and are commonly applied to agricultural and horticultural crops.

Environmental hazard: May be harmful to aquatic life in high concentrations due to presence of micronutrients.

Persistence and degradability: No data available.

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

Toxicity to Aquatic Organisms: No data available. Ecotoxicity to Terrestrial Organisms

Ecotoxicity to Terrestrial Organisms

Plant toxicity: At recommended rates the product is not phytotoxic.

SECTION 13. DISPOSAL CONSIDERATIONS (BASED ON ACTIVE INGREDIENT)

Disposal Method: Consult local and federal guidelines for disposal regulations.

Empty Container: Completely empty the container into the application equipment. Dispose of the container in a sanitary landfill or by incineration if allowed by local authorities.

SECTION 14. TRANSPORT INFORMATION

UN number: Not applicable.

UN proper shipping name: Not applicable.

UN classification: Not applicable.

Packing group: Not applicable.

Marine pollutant: Not applicable.

DOT (US): Not regulated.

ICAO/IATA (Ground and Air Packages): Not regulated.

International transportation: Not regulated.

TDG Canadian transportation: Not regulated.

NOTE: The shipping classification information in this section (Section 14) is meant as a guide to the overall classification of the product. However, transportation classifications may be subject to change with changes in package size. Consult shipper requirements under 49 CFR, IATA and IMDG to assure regulatory compliance.

SECTION 15. REGULATORY INFORMATION

SARA 302 Components: No chemicals in the product are subject to the reporting requirements of SARA Title III, Section 302.

Section 313 EPA Supplier Notification Requirement: This product contains the following EPCRA Section chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372): Zinc compounds.

SARA 311/312 Hazards: None

CERCLA: Zinc compounds are listed.

NFPA Hazard Rating (scale: 0-minimal, 1-slight, 2-moderate, 3-serious, 4-severe): Health – 1; Fire – 0; Reactivity – 0; Special - none

HMIS Codes (scale: 0-minimal, 1-slight, 2-moderate, 3-serious,4-severe): Flammability (red) – 0; Reactivity (yellow) – 0; Health (blue) – 1

SECTION 16. OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product feature and shall not establish a legally valid contractual relationship. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor / manufacturer assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Vendor / manufacturer assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1. WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE SPECIFICALLY DISCLAIMED. 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. Since the use and conditions of use of this information and the material described herein are not within the control of Smart Microbes, Smart Microbes disclaims all liability for injury to the user or third persons. Nothing herein shall be deemed to establish a legally valid contractual relationship. The material described herein is sold only pursuant to Smart Microbes Terms and Conditions of Sale.

End of Safety Data Sheet.