

SAFETY DATA SHEET



KALO

SECTION 1: IDENTIFICATION

Company Information	KALO, Inc., 13200 Metcalf Ave., Ste. 250, Overland Park, KS 66213
Phone Numbers	800-255-5196 / 913-491-9146 FAX
Website	www.kalo.com
Product Identity	VIGOR FOR SOYBEANS – PART B GROWTH PROMOTING RHIZOBACTERIA (PGPR)
Reference/Item Number	VIGTP, VIGOR-CS, VIGB
Other Means of Identification	Liquid inoculant containing live culture of nitrogen-fixing Rhizobium bacteria. Contains naturally occurring Rhizobacterium. These are symbiotic nitrogen-fixing bacteria, to be applied as a seed treatment or in-furrow at seed planting to specific legume crops and is not a plant food product.
Intended Use	Azospirillum bacteria in an aqueous solution.
Recommended Use	Nitrogen-fixing Rhizobium for specific legume crops.
Application Method	See product label for specific crop information, application rates and methods. Not for food, feed or drug use.
24 HOUR EMERGENCY NUMBER/CHEMTREC (USA)	1-800-424-9300
POISON CONTROL CENTER (USA)	1-800-222-1212

SECTION 2: HAZARDS IDENTIFICATION

HAZARD COMMUNICATION STANDARD (HCS) PICTOGRAM(S) AND SIGNAL WORD(S) – NOT REQUIRED

Eye Irritant:	H320: May cause mild eye irritation.
Prevention:	P280: Wear protective gloves and eye/face protection. P264: Wash thoroughly after handling.
Response:	P305+351+338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do; continue rinsing. P302+352: IF ON SKIN: Wash with plenty of soap and water. P304+340: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P314: Get medical advice/attention if you feel unwell.
Storage:	P234: Store in original container. P402+235: Store in a cool, dry place. P410: Protect from sunlight.
Disposal:	P501: Dispose of contents/container in accordance with local/national regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product is labeled with the following GHS classifications, as it contains substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations. This product is a proprietary blend and the ingredients and mixture percentages are being withheld as a trade secret.

Ingredient/Chemical Designations:	Azospirillum
CAS No.:	Proprietary
Notes:	There are no known health effects caused by Rhizobium bacteria contained in this product.

SAFETY DATA SHEET



KALO

SECTION 4: FIRST AID MEASURES

[DESCRIPTIONS]

General:	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
Inhalation:	Remove to fresh air. Keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious, place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
Eyes:	Irrigate copiously with clean fresh water for at least 10 minutes, holding the eyelids apart and seek medical attention.
Skin:	Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser. Do NOT use solvents or thinners.
Ingestion:	If accidentally swallowed, obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

[MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED]

Overview:	No adverse symptoms or effects anticipated under normal handling conditions. See Section 2 for further details.
Eyes:	May cause eye irritation.
Skin:	May cause skin irritation.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing Media:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special Hazards:	Product is not flammable.
Advice For Firefighters:	No special requirements.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill:	Contain spill and recover for use or disposal. Spilled liquid may cause slippery residue on hard floors. Flush spill area with water to wash away any slippery residue. Always follow federal, state and local regulations regarding waste disposal.
Environmental Precautions:	See Section 12 for Ecological information.
Methods and Material For Containment and Cleaning Up:	Prevent further leakage if safe to do so. Keep in suitable closed bags/containers for disposal.

SECTION 7: HANDLING AND STORAGE

Precautions For Safe Handling:	Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet. Wash exposed skin promptly to remove accidental splashes of contact with this material. Follow normal hygiene and housekeeping standards for agricultural products. See Section 2 for further details [PREVENTION].
Conditions For Safe Storage:	Store between 40°F (4°C) and 77°F (25°C). Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. Store in original package in a cool, dry place. Avoid repeated freeze/thaw cycles. Open package only when ready to use. Use before expiration date printed on package. See Section 2 for further details [STORAGE].
Incompatible Materials:	Not applicable
Equipment:	Clean application equipment with detergent and water after use.

SAFETY DATA SHEET



KALO

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Data: This product contains no ingredients (at greater than 0.1%) with established limits for exposure under OSHA, ACGIH and/or NIOSH.

Carcinogen Data: This product contains no ingredients (at greater than 0.1%) that are suspected of being or known to be a carcinogen under OSHA, NTP or IARC.

[PERSONAL PROTECTIVE EQUIPMENT]

Respiratory: Ensure adequate ventilation, especially in confined areas.

Eyes: Wear safety eyewear (e.g. safety spectacles/goggles/visors) to protect against the splash of liquids.

Skin: Overalls, which cover the body, arms, and legs, should be worn.

General Hygiene: Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Yellow to Brown Liquid

Odor: Mild

Odor Threshold: Not Measured

pH: 6.5-7.4

Specific Gravity: 1.0 @ 20°C

Flashpoint and Method: Not Measured

Solubility in Water: Soluble

Viscosity (cSt): Not Measured

VOC%: Not Measured

Vapor Pressure (Pa): Not Measured

Vapor Density: Not Measured

Density: Not Measured

Melting/Freezing Points: 25°F (-4°C)

Initial Boiling Point/Range (°F/°C): 216°F (102°C)

Flammability (Solid,Gas): Not Measured

Upper Flammability/Explosive Limits: Not Measured

Lower Flammability/Explosive Limits: Not Measured

Decomposition Temperature: Not Measured

Auto-Ignition Temperature: Not Measured

Volatility: Not Measured

Molecular Weight: Not Measured

Partition Co-Efficient n-octanol/water (Log Kow): Not Measured

Evaporation Rate (Ether=1): Not Measured

Particle Size: Not Measured

Other: No other relevant information.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Not reactive under normal conditions.

Chemical Stability: Stable under normal ambient and anticipated conditions of use.

Hazardous Reactions: Hazardous reactions not anticipated.

Conditions To Avoid: Incompatible materials.

Hazardous Decomposition Products: Some seed-applied chemicals, including fungicides, may be harmful to the bacteria in this product. See product label for further information on the use of fungicides or other chemicals in conjunction with seed treatment.

SAFETY DATA SHEET



KALO

SECTION 11: TOXICOLOGICAL INFORMATION

[ACUTE TOXICITY ESTIMATE]		
Ingredients:	Liquid inoculant containing live culture of nitrogen-fixing Rhizobium bacteria.	
Oral LD50mg/kg:	>5,000.00 (rat)	
Skin LD50mg/kg:	>2,000.00 (rabbit)	
Inhalation Vapor LC50mg/L/4hr:	No Data Available	
Inhalation Dust/Mist LC50mg/L/4hr:	No Data Available	
ITEM	HAZARD	CATEGORY
Acute Toxicity (mouth):	Not Applicable	--
Acute Toxicity (skin):	Not Applicable	--
Acute Toxicity (inhalation):	Not Applicable	--
Skin Corrosion/Irritation:	Not Applicable	--
Eye Damage/Irritation:	May cause mild eye irritation.	--
Sensitization (respiratory):	Not Applicable	--
Sensitization (skin):	Not a skin sensitizer.	--
Germ Toxicity:	Not Applicable	--
Carcinogenicity:	Not Applicable	--
Reproductive Toxicity:	Not Applicable	--
Specific Target Organ Systemic Toxicity-Single Exposure:	Not Applicable	--
Specific Target Organ Systemic Toxicity-Repeated Exposure:	Not Applicable	--
Aspiration Hazard:	Not Applicable	--

SECTION 12: ECOLOGICAL INFORMATION

Toxicity:	This product contains non-pathogenic, biodegradable Rhizobacterial strain(s) that naturally occur in soil.
Persistence and Degradability:	Not determined.
Bioaccumulative Potential:	Not determined.
Mobility In Soil:	Not determined.
Results of PBT and vPvB Assess:	This product contains no PBT/vPvB chemicals.
Other Adverse Effects:	Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Treatment Methods:	Wastes and emptied containers should be disposed of in accordance with regulations made under the Control of Pollution Act and the Environmental Protection Act. Dispose of contents in accordance with local and national regulations.
--------------------------	---

SAFETY DATA SHEET



SECTION 14: TRANSPORT INFORMATION

DOT Proper Shipping Name:	Not Regulated
DOT Hazard Class:	Not Applicable
DOT Packing Group:	Not Applicable
DOT Label:	None
IMDG Proper Shipping Name:	Not Regulated
IMDG Hazard Class:	Not Applicable
IMDG Packing Group:	Not Applicable
IMDG Marine Pollutant:	No
ICAO/IATA:	See Bill of Lading

SECTION 15: REGULATORY INFORMATION

Regulatory Overview:	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.
Toxic Substance Control Act (TSCA):	All ingredients of this product are listed on the TSCA inventory, or are not required to be listed on the TSCA inventory.
WHMIS Classification:	D2B
U.S. EPA Tier II Hazards:	Fire=NQ / Sudden Release of Pressure=NQ / Reactive=NQ / Immediate (acute)=NQ / Delayed (chronic)=NQ
EPCRA 302–Extremely Hazardous (0.1%):	To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.
EPCRA 311/312–Chemicals and RQs (>0.1%):	To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.
EPCRA 313–Toxic Chemicals (>0.1%):	To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.
Proposition 65–Carcinogens (>0.0%):	To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.
Proposition 65–Developmental Toxins (>0.0%):	To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.
Proposition 65–Female Repro Toxins (>0.0%):	To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.
Proposition 65–Male Repro Toxins (>0.0%):	To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.
N.J. RTK Substances (>1%):	To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.
PENN RTK Substances (>1%):	To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

SECTION 16: OTHER INFORMATION

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. Company accepts no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations and orders.