SAFETY DATA SHEET



1. Identification

Max-In for Beans **Product identifier**

Other means of identification

28154 **Product code**

Agricultural/ Horticultural Use- Micronutrient Fertilizer- Refer to product label. Recommended use

Refer to product label. **Recommended restrictions** Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Winfield Solutions, LLC

P.O. Box 64589 **Address**

St. Paul, MN 55164-0589

United States

1-855-494-6343 **Telephone** 1-877-424-7452 **Medical Emergency CHEMTREC (24 Hours)** 1-800-424-9300 E-mail www.winfield.com

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Serious eye damage/eye irritation Category 2A

> Reproductive toxicity Category 2

Environmental hazards Category 3 Hazardous to the aquatic environment, acute

hazard

Hazardous to the aquatic environment,

long-term hazard

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Causes serious eye irritation. Suspected of damaging fertility or the unborn child. Harmful to

aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

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

and understood. Wash thoroughly after handling. Avoid release to the environment. Wear

Category 3

protective gloves/protective clothing/eye protection/face protection.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and Response

easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. If eye

irritation persists: Get medical advice/attention.

Storage Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations. **Disposal**

Hazard(s) not otherwise

classified (HNOC)

None known.

Supplemental information None.

Material name: Max-In for Beans SDS US

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Manganese Nitrate		10377-66-9	10 - < 20*
Zinc Nitrate		7779-88-6	5 - < 10*
Boric acid (H3BO3) reaction products with ethanolamine		94095-04-2	1 - < 3*
Pentaerythritol		115-77-5	< 1*
Ammonium Hydroxide		1336-21-6	< 0.1*
Propylene glycol		57-55-6	< 0.1*
Sodium hydroxide, (Na(OH))		1310-73-2	< 0.1*
Other components below reportable	levels		80 - < 90

^{*}Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Wash off with soap and water. Get medical attention if irritation develops and persists. Skin contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if Eye contact present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Rinse mouth. Get medical attention if symptoms occur. Ingestion

Most important symptoms/effects, acute and

delayed

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information

IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media

Unsuitable extinguishing

media

Do not use water jet as an extinguisher, as this will spread the fire.

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk.

Specific methods General fire hazards Use standard firefighting procedures and consider the hazards of other involved materials.

No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions. protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Material name: Max-In for Beans SDS US

Methods and materials for containment and cleaning up

Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with eyes. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

Components	Туре	Value	Form
Ammonium Hydroxide (CAS 1336-21-6)	PEL	35 mg/m3	
		50 ppm	
Manganese Nitrate (CAS 10377-66-9)	Ceiling	5 mg/m3	
Pentaerythritol (CAS 115-77-5)	PEL	5 mg/m3	Respirable fraction
,		15 mg/m3	Total dust.
Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)	PEL	2 mg/m3	
US. ACGIH Threshold Limit Values			
Components	Туре	Value	Form
Ammonium Hydroxide (CAS 1336-21-6)	STEL	35 ppm	
	TWA	25 ppm	
Manganese Nitrate (CAS 10377-66-9)	TWA	0.1 mg/m3	Inhalable fraction.
,		0.02 mg/m3	Respirable fraction
Pentaerythritol (CAS 115-77-5)	TWA	10 mg/m3	
Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)	Ceiling	2 mg/m3	
US. NIOSH: Pocket Guide to Chem	ical Hazards		
Components	Туре	Value	Form
Ammonium Hydroxide (CAS 1336-21-6)	STEL	27 mg/m3	
		35 ppm	
	TWA	18 mg/m3	
		25 ppm	
Manganese Nitrate (CAS 10377-66-9)	STEL	3 mg/m3	Fume.
	TWA	1 mg/m3	Fume.
Pentaerythritol (CAS 115-77-5)	TWA	5 mg/m3	Respirable.
•		10 mg/m3	Total

Material name: Max-In for Beans

US. NIOSH: Pocket Guide to Chemical Hazards

Components Type Value Form

Sodium hydroxide, Ceiling 2 mg/m3

(Na(OH)) (CAS 1310-73-2)

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

ComponentsTypeValueFormPropylene glycol (CAS 57-55-6)TWA 10 mg/m3 Aerosol.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove

supplier.

Other Wear suitable protective clothing. Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance Liquid.
Physical state Liquid.
Form Liquid.
Color Brown.

Odor faint sweet odor
Odor threshold Not available.

pH 3 - 4

Melting point/freezing point Not available.

Initial boiling point and boiling

range

> 212 °F (> 100 °C) estimated

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower

Not available.

(%)

Flammability limit - upper

Not available.

(%)

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 0.00001 hPa estimated

Vapor density Not available.

Relative density 1.22 - 1.26 g/cm3 (typical)

Solubility(ies)

Solubility (water) 100 %

Material name: Max-In for Beans sps us

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperatureNot available.Decomposition temperatureNot available.ViscosityNot available.

Other information

Explosive propertiesNot explosive.Oxidizing propertiesNot oxidizing.Percent volatile64.14 % estimatedpH in aqueous solution5 - 7 (1% Solution)

Pounds per gallon 10.2 - 10.5 lb/gal (typical)

Shelf life > 2 years

VOC 0.54 % estimated

10. Stability and reactivity

ReactivityThe product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous Hazardous polymerization does not occur.

reactions

Conditions to avoidContact with incompatible materials.

Incompatible materials Strong oxidizing agents.

Hazardous decomposition

products

No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation Prolonged inhalation may be harmful.

Skin contact No adverse effects due to skin contact are expected.

Eye contact Causes serious eye irritation.

Ingestion Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and

toxicological characteristics

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred

vision

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
Max-In for Beans		
<u>Acute</u>		
Inhalation		
LD50	Rat	6433 mg/l, 4 hours estimated
Oral		
LD50	Mouse	3893 mg/kg estimated
	Rat	22236 mg/kg estimated
Components Species		Test Results

Ammonium Hydroxide (CAS 1336-21-6)

Acute Oral

LD50 Rat 350 mg/kg

Material name: Max-In for Beans SDS US

Components **Test Results**

Species

Pentaerythritol (CAS 115-77-5)

Acute Oral

LD50 Guinea pig 11300 mg/kg

Mouse 25500 mg/kg

Propylene glycol (CAS 57-55-6)

Acute

Dermal

LD50 Rabbit 2000 mg/kg

Inhalation

LD50 Rabbit 317.042 mg/l

Oral

LD50 Rat > 20000 mg/kg

Zinc Nitrate (CAS 7779-88-6)

Acute Oral

LD50 Mouse 241.3 mg/kg Rat 1400 mg/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye

Causes serious eye irritation.

irritation

Respiratory or skin sensitization

Not a respiratory sensitizer. Respiratory sensitization

This product is not expected to cause skin sensitization. Skin sensitization

No data available to indicate product or any components present at greater than 0.1% are Germ cell mutagenicity

mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Suspected of damaging fertility or the unborn child.

Specific target organ

Not classified. toxicity - single exposure

Specific target organ

toxicity - repeated

exposure

Draduat

Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Product		Species	rest results	
Max-In for Beans				
Aquatic				
Fish	LC50	Fish	210.0491 mg/l, 96 hours estimated	

Toot Doculto

Chaoine

Material name: Max-In for Beans 28154 Version #: 04 Revision date: 10-11-18 Issue date: 11-09-2016

^{*} Estimates for product may be based on additional component data not shown.

Components Species Test Results

Ammonium Hydroxide (CAS 1336-21-6)

Aquatic

Fish LC50 Western mosquitofish (Gambusia affinis) 15 mg/l, 96 hours

Pentaerythritol (CAS 115-77-5)

Aquatic

Crustacea EC50 Water flea (Daphnia magna) 30477 - 37043 mg/l, 48 hours

Propylene glycol (CAS 57-55-6)

Aquatic

Crustacea EC50 Water flea (Daphnia magna) > 10000 mg/l, 48 hours

Fish LC50 Fathead minnow (Pimephales promelas) 29485 - 39339 mg/l, 96 hours

Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)

Aquatic

Crustacea EC50 Water flea (Ceriodaphnia dubia) 34.59 - 47.13 mg/l, 48 hours

Fish LC50 Western mosquitofish (Gambusia affinis) 125 mg/l, 96 hours

Zinc Nitrate (CAS 7779-88-6)

Aquatic

Crustacea LC50 Brown mussel (Perna indica) 1.2858 - 1.5402 mg/l, 96 hours

Fish LC50 Minnow (Phoxinus phoxinus) 2.7 - 3.7 mg/l, 96 hours

Persistence and degradability

No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Pentaerythritol -1.69
Propylene glycol -0.92

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation

potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructionsCollect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow

this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches

with chemical or used container. Dispose of contents/container in accordance with

 $local/regional/national/international\ regulations.$

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste codeThe waste code should be assigned in discussion between the user, the producer and the waste

disposal company.

Waste from residues / unused

products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see:

Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is

emptied. Empty containers should be taken to an approved waste handling site for recycling or

disposal.

14. Transport information

DOT

UN number UN3082

UN proper shipping name Environmentally hazardous substances, liquid, n.o.s. (Zinc Nitrate RQ = 16393 LBS) (Yes)

Transport hazard class(es)

Class 9
Subsidiary risk Label(s) 9
Packing group III

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions 8, 146, 335, IB3, T4, TP1, TP29

Material name: Max-In for Beans SDS US

^{*} Estimates for product may be based on additional component data not shown.

Packaging exceptions155Packaging non bulk203Packaging bulk241

IMDG Regulated Marine Pollutant. Not DOT regulated in domestic (USA ground) transportation in package sizes less than 16393 lbs (1592 gallons); 7436 kg (6026 liters). The DOT transportation information above is for shipments with package sizes equal to or exceeding this value.

DOT Shipping Notes: 40 CFR 172.504(f)(9) For Class 9, a CLASS 9 placard is not required for domestic (USA ground) transportation, however shipments with packaging exceeding the Reportable Quantity (RQ) or bulk packaging must be marked with the appropriate identification number on a CLASS 9 placard, an orange panel, or a white square-on-point display configuration as required. Since the Class 9 placard is not required (although it may be used) the hazardous material endorsement is also not required on a Commercial Drivers License.

IATA

UN number UN3082

UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (Zinc Nitrate)

Transport hazard class(es)

Class 9
Subsidiary risk Packing group III
Environmental hazards Yes
ERG Code 9L

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo

cargo Allowed with restrictions.

aircraft

Cargo aircraft only Allowed with restrictions.

IMDG

UN number UN3082

UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc Nitrate), MARINE

POLLUTANT

Transport hazard class(es)

Class 9
Subsidiary risk Packing group III
Environmental hazards

Marine pollutant Yes

EmS F-A. S-F

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

DOT; IATA; IMDG



Marine pollutant



Material name: Max-In for Beans sps us

IMDG Regulated Marine Pollutant. Not DOT regulated in domestic (USA ground) transportation in package sizes less than 16393 lbs (1592 gallons); 7436 kg (6026 liters). The DOT transportation information above is for shipments with package sizes equal to or exceeding this value.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication

Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ammonium Hydroxide (CAS 1336-21-6)

Manganese Nitrate (CAS 10377-66-9)

Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)

Zinc Nitrate (CAS 7779-88-6)

Listed.

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes

Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous No

chemical

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Manganese Nitrate	10377-66-9	10 - < 20
Zinc Nitrate	7779-88-6	5 - < 10

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Manganese Nitrate (CAS 10377-66-9)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act Not regulated.

(SDWA)

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd.

(a))

Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)

US. Massachusetts RTK - Substance List

Ammonium Hydroxide (CAS 1336-21-6)

Pentaerythritol (CAS 115-77-5)

Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)

Zinc Nitrate (CAS 7779-88-6)

US. New Jersey Worker and Community Right-to-Know Act

Ammonium Hydroxide (CAS 1336-21-6)

Manganese Nitrate (CAS 10377-66-9)

Pentaerythritol (CAS 115-77-5)

Propylene glycol (CAS 57-55-6)

Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)

Zinc Nitrate (CAS 7779-88-6)

Material name: Max-In for Beans sps.us

US. Pennsylvania Worker and Community Right-to-Know Law

Ammonium Hydroxide (CAS 1336-21-6)

Pentaerythritol (CAS 115-77-5)

Propylene glycol (CAS 57-55-6)

Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)

Zinc Nitrate (CAS 7779-88-6)

US. Rhode Island RTK

Ammonium Hydroxide (CAS 1336-21-6) Manganese Nitrate (CAS 10377-66-9) Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)

Zinc Nitrate (CAS 7779-88-6) **US. California Proposition 65**

WARNING: This product contains a chemical known to the State of California to cause cancer.

International Inventories

Country(s) or region

3(1)	· · · · · · · · · · · · · · · · · · ·	7 ()
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No

^{*}A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s) A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Toxic Substances Control Act (TSCA) Inventory

16. Other information, including date of preparation or last revision

Inventory name

 Issue date
 02-28-2014

 Revision date
 11-09-2016

Version # 04

United States & Puerto Rico

Disclaimer The information provided in this Safety Data Sheet is correct to the best of Manufacturer's

knowledge, information and belief at the date of its publication; however, it is provided only as a guidance for safe handling, use, processing, storage, transportation, disposal and release of the Product. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made with respect to the Product or the information provided herein, or that the Product or information herein may be used without infringing the intellectual property rights of others. The information provided in this Safety Data Sheet relates only to the specific Product designated and may not be valid if the Product is used in combination with other materials or in any other process, unless specified herein. The user

assumes all risk and liability for loss, injury, damage or expense due to any use, handling, storage or disposal of the Product, and Manufacturer recommends that the user conducts its owns tests of

the Product to determine suitability of the Product for user's particular use.

Revision information Physical & Chemical Properties: Multiple Properties

Material name: Max-In for Beans sps us

On inventory (yes/no)*

No