

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Product name : Soil-Set

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Fertilizer

1.3. Supplier

Improcrop U.S.A., Inc. d/b/a Alltech Crop Science
 3031 Catnip Hill Road
 Nicholasville, KY 40356 USA
 T +1 859-885-9613
 RegulatoryACS@alltech.com

1.4. Emergency telephone number

Emergency number : 1-800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Acute toxicity (oral), Category 4

Specific target organ toxicity – Repeated exposure, Category 2

Harmful if swallowed.

May cause damage to organs through prolonged or repeated exposure.

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Warning

Hazard statements (GHS US) :

Harmful if swallowed.
 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS US) :

Do not breathe dust/fume/gas/mist/vapours/spray.
 Wash hands, forearms and face thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 If swallowed: Call a poison center or doctor if you feel unwell.
 Get medical advice/attention if you feel unwell.
 Rinse mouth.
 Dispose of contents/container to in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification

No additional information available

Soil-Set

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

2.4. Unknown acute toxicity (GHS US)

- 3.54% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
- 3.54% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
- 3.54% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapours))

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
BACTERIAL FERMENTATION MEDIA		50 – 80	Not classified
Zinc sulfate	CAS-No.: 7446-19-7	5 – 10	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
Copper Sulfate 25%	CAS-No.: 7758-99-8	5 – 10	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Ferrous sulfate, heptahydrate	CAS-No.: 7782-63-0	5 – 10	Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319
YUCCA SCHIDIGERA EXTRACT		2.5 – 5	Not classified
Manganese sulfate	CAS-No.: 10034-96-5	2.5 – 5	Eye Dam. 1, H318 STOT RE 2, H373

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : Call a poison center or a doctor if you feel unwell.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Wash skin with plenty of water.
- First-aid measures after eye contact : Rinse eyes with water as a precaution.
- First-aid measures after ingestion : Rinse mouth. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

Soil-Set

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.
Maximum storage period : 24 months
Storage temperature : 40 °C

Soil-Set

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the aquatic environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Protective gloves
Eye protection:
Safety glasses
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Mixture contains one or more component(s) which have the following colour(s): Colourless to white Blue Blue-green On exposure to air: yellow-brown White
Odour	: There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour: Odourless
Odour threshold	: No data available
pH	: ≥ 4.64
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: $> 100\text{ }^{\circ}\text{C}$
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.27 g/ml
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available

Soil-Set

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Auto-ignition temperature	: > 100 °C
Decomposition temperature	: No data available
Viscosity, kinematic	: 4.9 mm ² /s
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Soil-Set	
LD50 oral rat	1027 mg/kg
LD50 dermal rat	5000 mg/kg
LC50 Inhalation - Rat [ppm]	< 2.11 ppm
ATE US (oral)	1027 mg/kg bodyweight
ATE US (dermal)	5000 mg/kg bodyweight
Unknown acute toxicity (GHS US)	3.54% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 3.54% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 3.54% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapours))

Soil-Set

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

BACTERIAL FERMENTATION MEDIA	
LD50 oral rat	> 5000 ml/kg
LD50 dermal rat	> 5000 mg/kg
LC50 Inhalation - Rat [ppm]	2.05 ppm
Zinc sulfate (7446-19-7)	
LD50 oral rat	1710 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 15 day(s))
ATE US (oral)	1710 mg/kg bodyweight
Copper Sulfate 25% (7758-99-8)	
LD50 oral rat	300 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 482 mg/kg bodyweight; Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit; Literature study; OECD 402: Acute Dermal Toxicity)
ATE US (oral)	500 mg/kg bodyweight
Ferrous sulfate, heptahydrate (7782-63-0)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Read-across, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Read-across, Anhydrous form, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 1.1 mg/l (EPA OPP 81-3: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Read-across, Anhydrous form, Inhalation)
ATE US (dust,mist)	1.5 mg/l/4h
Manganese sulfate (10034-96-5)	
LD50 oral rat	2150 mg/kg (Rat, Male / female, Experimental value, Oral)
LC50 Inhalation - Rat	> 4.45 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (dust))
ATE US (oral)	2150 mg/kg bodyweight
Skin corrosion/irritation	: Not classified. (Based on available data, the classification criteria are not met) pH: ≥ 4.64
Serious eye damage/irritation	: Not classified. (Based on available data, the classification criteria are not met) pH: ≥ 4.64
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
BACTERIAL FERMENTATION MEDIA	
IARC group	4 - Probably not carcinogenic to humans
YUCCA SCHIDIGERA EXTRACT	
IARC group	4 - Probably not carcinogenic to humans
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.

Soil-Set

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Manganese sulfate (10034-96-5)

STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
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Aspiration hazard : Not classified
Viscosity, kinematic : 4.9 mm²/s
Likely routes of exposure : Inhalation. Dermal.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

DOT NA No : UN3082 - Not applicable in packages under 119 gallons (<450 liters).
UN-No. (TDG) : Not applicable
UN-No. (IMDG) : 3082
UN-No. (IATA) : 3082

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Environmentally hazardous substances, liquid, n.o.s.
Proper Shipping Name (TDG) : Not applicable
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Proper Shipping Name (IATA) : Environmentally hazardous substance, liquid, n.o.s.

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : 9
Hazard labels (DOT) : 9

Soil-Set

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations



TDG

Transport hazard class(es) (TDG) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : 9

Danger labels (IMDG) : 9



IATA

Transport hazard class(es) (IATA) : 9

Danger labels (IATA) : 9



14.4. Packing group

Packing group (DOT) : III

Packing group (TDG) : Not applicable

Packing group (IMDG) : III

Packing group (IATA) : III

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

Special transport precautions : Not subject to DOT regulation in packages less than 119 gallons (<450 liters).

DOT

UN-No.(DOT) : UN3082 - Not applicable in packages less than 119 gallons (<450 liters).

Soil-Set

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DOT Special Provisions (49 CFR 172.102)	: 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies. 146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination. 173 - An appropriate generic entry may be used for this material. 335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s.," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leakproof when used as bulk packaging. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 155
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: No limit
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: No limit
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

TDG

Emergency Response Guide (ERG) Number : 171

IMDG

Special provisions (IMDG)	: 274, 335, 969
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
Special packing provisions (IMDG)	: PP1
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP2, TP29
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS
Stowage category (IMDG)	: A

IATA

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y964
PCA limited quantity max net quantity (IATA)	: 30kgG
PCA packing instructions (IATA)	: 964
PCA max net quantity (IATA)	: 450L

Soil-Set

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

CAO packing instructions (IATA)	: 964
CAO max net quantity (IATA)	: 450L
Special provisions (IATA)	: A97, A158, A197
ERG code (IATA)	: 9L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

BACTERIAL FERMENTATION MEDIA		50 – 80%
Copper Sulfate 25%	CAS-No. 7758-99-8	5 – 10%
Ferrous sulfate, heptahydrate	CAS-No. 7782-63-0	5 – 10%
YUCCA SCHIDIGERA EXTRACT		2.5 – 5%

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Zinc sulfate	CAS-No. 7446-19-7	5 – 10%
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Zinc sulfate (7446-19-7)

CERCLA RQ	1000 lb
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Ferrous sulfate, heptahydrate (7782-63-0)

CERCLA RQ	1000 lb
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15.2. International regulations

CANADA

Ferrous sulfate, heptahydrate (7782-63-0)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

Manganese sulfate (10034-96-5)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Soil-Set

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Component	State or local regulations
Zinc sulfate(7446-19-7)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Ferrous sulfate, heptahydrate(7782-63-0)	U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 04/13/2022

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Safety Data Sheet (SDS), USA

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