

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Product name : TURN

1.2. Recommended use and restrictions on use

1.3. Supplier

INNICTIS ORGANIC ADVANCEMENTS
 P.O. Box 9296
 Boise, ID 83707 - USA
 T 855-466-8428

1.4. Emergency telephone number

Emergency number : ChemTrec 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 | H302 Harmful if swallowed. |
| Skin corrosion/irritation, Category 2 | H315 Causes skin irritation. |
| Serious eye damage/eye irritation, Category 2B | H320 Causes eye irritation |
| Specific target organ toxicity — Repeated exposure, Category 2 | H373 May cause damage to organs through prolonged or repeated exposure. |

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Warning

Hazard statements (GHS US) :

H302 - Harmful if swallowed.
 H315 - Causes skin irritation.
 H320 - Causes eye irritation
 H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS US) :

P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
 P264 - Wash hands, forearms and face thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P312 - If swallowed: Call a poison center/doctor/... if you feel unwell
 P302+P352 - If on skin: Wash with plenty of water/...
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P314 - Get medical advice/attention if you feel unwell.
 P321 - Specific treatment (see supplemental first aid instruction on this label)
 P330 - Rinse mouth.
 P332+P313 - If skin irritation occurs: Get medical attention
 P337+P313 - If eye irritation persists: Get medical attention
 P362+P364 - Take off contaminated clothing and wash it before reuse.
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

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2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : 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 consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapours)).

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | GHS-US classification |
|-----------------------------------|-----------------------|---------|--|
| LACTOBACILLUS EXTRACT FILTRATE | | 50 – 80 | Not classified |
| zinc sulfate | (CAS-No.) 7733-02-0 | 5 – 10 | Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 |
| iron(II) sulfate, heptahydrate | (CAS-No.) 7782-63-0 | 5 – 10 | Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 |
| copper sulphate | (CAS-No.) 7758-98-7 | 5 – 10 | Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 |
| manganese(II)sulfate, monohydrate | (CAS-No.) 10034-96-5 | 2.5 – 5 | Not classified |
| Yucca Plant Powder | (CAS-No.) 223749-05-1 | 2.5 – 5 | Not classified |

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. Take off contaminated clothing. If skin irritation occurs: Get medical attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
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)

Symptoms/effects after skin contact : Irritation.
Symptoms/effects after eye contact : mild eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

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. Avoid contact with skin and eyes.

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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

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. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures : Wash contaminated clothing before reuse. 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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| | |
|---|-----------------------|
| TURN | |
| No additional information available | |
| zinc sulfate (7733-02-0) | |
| No additional information available | |
| LACTOBACILLUS EXTRACT FILTRATE | |
| No additional information available | |
| iron(II) sulfate, heptahydrate (7782-63-0) | |
| USA - ACGIH - Occupational Exposure Limits | |
| ACGIH TWA (mg/m ³) | 1 mg/m ³ |
| Yucca Plant Powder (223749-05-1) | |
| No additional information available | |
| manganese(II)sulfate, monohydrate (10034-96-5) | |
| USA - ACGIH - Occupational Exposure Limits | |
| ACGIH TWA (mg/m ³) | 0.1 mg/m ³ |
| copper sulphate (7758-98-7) | |
| 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 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

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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 Rose Blue-green On exposure to air: yellow-brown Colourless |
| 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 | : No data available |
| Melting point | : Not applicable |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| 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 |
| Auto-ignition temperature | : 100 °C |
| Decomposition temperature | : No data available |
| Viscosity, kinematic | : 4.9 cSt |
| 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).

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10.5. Incompatible materials

No additional information available

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

| TURN | |
|---------------------------|-----------------------|
| 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 |

| zinc sulfate (7733-02-0) | |
|--------------------------|-------------------------|
| LD50 oral rat | 1000 – 2000 mg/kg (Rat) |

| iron(II) sulfate, heptahydrate (7782-63-0) | |
|--|------------------|
| LD50 oral rat | 1480 mg/kg (Rat) |

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes eye irritation.
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

| TURN | |
|------------|---|
| 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.

Aspiration hazard : Not classified

Viscosity, kinematic : 4.9 mm²/s

Symptoms/effects after skin contact : Irritation.

Symptoms/effects after eye contact : mild eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.

| zinc sulfate (7733-02-0) | |
|--------------------------|--|
| LC50 fish 1 | 1.7 mg/l (96 h; <i>Poecilia reticulata</i>) |
| EC50 Daphnia 1 | 1 mg/l (24 h; <i>Daphnia magna</i>) |
| LC50 fish 2 | 2.4 mg/l 96 h; <i>Salmo gairdneri</i> (<i>Oncorhynchus mykiss</i>) |
| EC50 Daphnia 2 | 0.56 mg/l (48 h; <i>Daphnia magna</i>) |
| Threshold limit algae 1 | 136 µg/l (72 h; <i>Selenastrum capricornutum</i> ; Growth rate) |
| Threshold limit algae 2 | 24 µg/l (3 days; <i>Selenastrum capricornutum</i> ; Growth rate) |

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| iron(II) sulfate, heptahydrate (7782-63-0) | |
|---|--|
| LC50 fish 1 | 925 mg/l (96 h; Poecilia reticulata) |
| EC50 Daphnia 1 | 7.2 mg/l (48 h; Daphnia magna; Metal ion) |
| LC50 fish 2 | > 200 mg/l (48 h; Leuciscus idus) |
| EC50 Daphnia 2 | 152 mg/l (48 h; Daphnia magna; Anhydrous form) |

| manganese(II)sulfate, monohydrate (10034-96-5) | |
|---|---|
| LC50 fish 1 | 2850 mg/l (96 h; Colisa fasciatus; Anhydrous form) |
| EC50 Daphnia 1 | 8.28 mg/l (48 h; Daphnia magna; Anhydrous form) |
| LC50 fish 2 | 33.8 mg/l (96 h; Pimephales promelas; Anhydrous form) |
| EC50 Daphnia 2 | 10 mg/l (24 h; Daphnia magna; Anhydrous form) |
| Threshold limit algae 1 | 25.7 mg/l (Phaeodactylum; Anhydrous form) |

12.2. Persistence and degradability

| zinc sulfate (7733-02-0) | |
|---------------------------------|--|
| Persistence and degradability | Biodegradability: not applicable. Not established. |
| Biochemical oxygen demand (BOD) | Not applicable |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |
| BOD (% of ThOD) | Not applicable |

| iron(II) sulfate, heptahydrate (7782-63-0) | |
|---|--|
| Persistence and degradability | Biodegradability in water: no data available. Biodegradability in soil: no data available. Adsorbs into the soil. Not established. |

| Yucca Plant Powder (223749-05-1) | |
|---|------------------|
| Persistence and degradability | Not established. |

| manganese(II)sulfate, monohydrate (10034-96-5) | |
|---|--|
| Persistence and degradability | Biodegradability: not applicable. Not established. |
| Biochemical oxygen demand (BOD) | Not applicable |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |
| BOD (% of ThOD) | Not applicable |

12.3. Bioaccumulative potential

| zinc sulfate (7733-02-0) | |
|---------------------------------|--|
| BCF fish 1 | 59 – 242 (Cyprinus carpio; Test duration: 8 weeks) |
| Bioaccumulative potential | Bioaccumable. Not established. |

| iron(II) sulfate, heptahydrate (7782-63-0) | |
|---|---------------------------------------|
| Bioaccumulative potential | Not bioaccumulative. Not established. |

| Yucca Plant Powder (223749-05-1) | |
|---|------------------|
| Bioaccumulative potential | Not established. |

| manganese(II)sulfate, monohydrate (10034-96-5) | |
|---|------------------|
| Bioaccumulative potential | Not established. |

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

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SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : NA3082 Other regulated substances, liquid, n.o.s. (CONTAINS COPPER SULFATE, ZINC SULFATE, AND MANGANESE SULFATE), 9, III

UN-No.(DOT) : NA3082

Proper Shipping Name (DOT) : Other regulated substances, liquid, n.o.s.
(CONTAINS COPPER SULFATE, ZINC SULFATE, AND MANGANESE SULFATE)

Class (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140

Packing group (DOT) : III - Minor Danger

Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)



DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 241

DOT Symbols : D - Proper shipping name for domestic use only, or to and from Canada, G - Identifies PSN requiring a technical name

DOT Special Provisions (49 CFR 172.102) : A189 - Except where the defining criteria of another class or division are met, concentrations of formaldehyde solution: a. With less than 25 percent but not less than 10 percent formaldehyde, must be described as UN3334, Aviation regulated liquid, n.o.s; and b. With less than 10 percent formaldehyde, are not subject to this subchapter.
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).
T2 - 1.5 178.274(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.

DOT Packaging Exceptions (49 CFR 173.xxx) : 155

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.

Other information : No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

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SECTION 15: Regulatory information

15.1. US Federal regulations

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All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

| | | |
|-----------------------------------|---------------------|----------|
| LACTOBACILLUS EXTRACT FILTRATE | CAS-No. | 50 – 80% |
| iron(II) sulfate, heptahydrate | CAS-No. 7782-63-0 | 5 – 10% |
| Yucca Plant Powder | CAS-No. 223749-05-1 | 2.5 – 5% |
| manganese(II)sulfate, monohydrate | CAS-No. 10034-96-5 | 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. 7733-02-0 | 5 – 10% |
| copper sulphate | CAS-No. 7758-98-7 | 5 – 10% |

zinc sulfate (7733-02-0)

| | |
|-----------|---------|
| CERCLA RQ | 1000 lb |
|-----------|---------|

iron(II) sulfate, heptahydrate (7782-63-0)

| | |
|-----------|---------|
| CERCLA RQ | 1000 lb |
|-----------|---------|

copper sulphate (7758-98-7)

| | |
|-----------|-------|
| CERCLA RQ | 10 lb |
|-----------|-------|

15.2. International regulations

CANADA

zinc sulfate (7733-02-0)

Listed on the Canadian DSL (Domestic Substances List)

iron(II) sulfate, heptahydrate (7782-63-0)

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

Yucca Plant Powder (223749-05-1)

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

manganese(II)sulfate, monohydrate (10034-96-5)

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

copper sulphate (7758-98-7)

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

| Component | State or local regulations |
|---|---|
| zinc sulfate(7733-02-0) | 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 |
| iron(II) sulfate, heptahydrate(7782-63-0) | U.S. - Massachusetts - Right To Know List; U.S. - Pennsylvania - RTK (Right to Know) List |
| copper sulphate(7758-98-7) | 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 |

SECTION 16: Other information

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Full text of H-statements:

| | |
|------|--|
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H320 | Causes eye irritation |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.