

SAFETY DATA SHEET

Grain Guard®

Version Revision Date: MSDS Number: Country: US
1.7 10/08/2015 400000004206 Language: EN

SECTION 1. IDENTIFICATION

Product name : Grain Guard®
Product code : 400000004206

Manufacturer or supplier's details

Company: MacDermid Agricultural Solutions, Inc
 245 Freight St
 Waterbury, CT
 United States of America
 06702
 Telephone : +1 800 423 8569

Prepared by sds.request@arysta.com

Further information for the safety data sheet :
sds.request@arysta.com

1.4 Emergency telephone number

Emergency telephone number: Agriphar Crop Solutions: +1 800 423 8569(24 hours) 800-424-9300
 For additional emergency telephone numbers see section 16 of the
 Safety Data Sheet.

Recommended use of the chemical and restrictions on use

Recommended use : Seed treatment
Restrictions on use : Agriculture, For professional users only.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin irritation : Category 2
Eye irritation : Category 2A
Skin sensitisation : Category 1
Acute aquatic toxicity : Category 1

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GHS Label element

Hazard pictograms



Signal word

: Warning

Hazard statements

: H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H400 Very toxic to aquatic life.

Precautionary statements

: **Prevention:**
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.
P280 Wear protective gloves.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and 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.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P391 Collect spillage.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Mixture

Hazardous components

Chemical Name	CAS-No.	Concentration (% w/w)
manganese ethylenebis(dithiocarbamate) (polymeric) complex with zinc salt	8018-01-7	>= 50 - < 70
Talc (Mg ₃ H ₂ (SiO ₃) ₄)	14807-96-6	>= 20 - < 30
graphite	7782-42-5	>= 10 - < 20

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SECTION 4. FIRST AID MEASURES

- If inhaled : Move to fresh air.
If not breathing, give artificial respiration.
Call a POISON CENTER or doctor/ physician.
- In case of skin contact : Remove contaminated clothing and shoes.
Wash off immediately with plenty of water for at least 15 minutes.
Call a POISON CENTER or doctor/ physician.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
Call a POISON CENTER or doctor/ physician.
- If swallowed : Call a physician or poison control centre immediately.
Have person sip a glass of water if able to swallow.
If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.
Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : Eye irritation
Skin irritation
Allergic reactions
Symptoms may be delayed.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
- Notes to physician : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.
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SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Extinguishing media - large fires
Alcohol-resistant foam
(on small fires)
Carbon dioxide (CO₂)
Dry chemical
Water spray
- Unsuitable extinguishing media : Water spray jet
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Further information : Do not discharge extinguishing waters into streams, rivers and lakes.
- Special protective equipment for : Body covering protective clothing, full "turn-out" gear.
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firefighters Self-contained breathing apparatus (EN 133)

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Evacuate unnecessary personnel.
Avoid all contact with material.
Wear suitable protective equipment.
- Environmental precautions : Prevent leaks and prevent soil / water pollution caused by leaks.
- Methods and materials for containment and cleaning up : Sweep up and shovel into suitable containers for disposal.
Avoid dust formation.
In accordance with local and national regulations.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Wear suitable protective equipment.
Warn personnel about the dangers of the product.
Keep container tightly closed.
Keep container tightly closed.
Avoid formation of dust and aerosols.
- Conditions for safe storage : Keep in a dry, cool place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
manganese ethylenebis(dithiocarbamate) (polimeric) complex with zinc salt	8018-01-7	TWA	1 mg/m ³	US WEEL
		C	5 mg/m ³ (Manganese)	OSHA Z-1
		C	5 mg/m ³ (Manganese)	OSHA P0
		TWA	1 mg/m ³ (Manganese)	NIOSH REL
		ST	3 mg/m ³ (Manganese)	NIOSH REL
Talc (Mg ₃ H ₂ (SiO ₃) ₄)	14807-96-6	TWA	0.1 fibre/cm ³	ACGIH
		TWA (Respirable fraction)	2 mg/m ³	ACGIH
		TWA (Dust)	20 Million particles per cubic foot	OSHA Z-3
		TWA (Respirable)	2 mg/m ³	NIOSH REL

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		TWA (respirable dust fraction)	2 mg/m ³	OSHA P0
graphite	7782-42-5	TWA (total dust)	15 mg/m ³	OSHA Z-1
		TWA (respirable fraction)	5 mg/m ³	OSHA Z-1
		TWA (Respirable fraction)	2 mg/m ³	ACGIH
		TWA (Respirable)	2.5 mg/m ³	NIOSH REL
		TWA (Dust)	15 Million particles per cubic foot	OSHA Z-3
		TWA (Total dust)	10 mg/m ³	OSHA P0
		TWA (respirable dust fraction)	5 mg/m ³	OSHA P0
		TWA (respirable dust fraction)	2.5 mg/m ³	OSHA P0

Personal protective equipment

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection

Remarks : Impervious gloves

Eye protection : Face-shield

Skin and body protection : Long sleeved clothing

Hygiene measures : Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Do not store near food, feed or fertilizers.
Do not contaminate ponds, lakes, streams, or any source of water.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : powder

Colour : grey

Odour : sulphurous

Odour Threshold : No data available

pH : No data available

Melting point/range : No data available

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Boiling point/boiling range : No data available

Flash point : No data available

Evaporation rate : No data available

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapour pressure : No data available

Relative vapour density : Not applicable

Relative density : No data available

Bulk density : ca. 328.4 - 448.6 kg/m³

Solubility(ies)

 Water solubility : insoluble

 Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

 Viscosity, dynamic : Not applicable

 Viscosity, kinematic : Not applicable

Self-Accelerating decomposition temperature (SADT) : Method: No information available.

SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions : Hazardous polymerisation does not occur.

Incompatible materials : Oxidizing agents
Strong acids and strong bases

Hazardous decomposition products : Burning produces noxious and toxic fumes.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

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Inhalation
Eye contact
Skin contact

Acute toxicity

Product:

Acute oral toxicity : LD50: 7,500 mg/kg
Acute inhalation toxicity : LC50: Remarks: No data available
Acute dermal toxicity : LD50: Remarks: No data available

Skin corrosion/irritation

Product:

Assessment: Irritating to skin.

Components:

Talc (Mg₃H₂(SiO₃)₄):

Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

Product:

Assessment: Irritating to eyes.

Components:

Talc (Mg₃H₂(SiO₃)₄):

Species: Rabbit
Result: No eye irritation

Germ cell mutagenicity

Components:

Talc (Mg₃H₂(SiO₃)₄):

Genotoxicity in vitro : Test Type: Unscheduled DNA synthesis (UDS)
Result: negative
GLP: yes

: Test Type: Ames test
Result: negative

Genotoxicity in vivo : Test Type: in vivo assay
Species: Rat
Application Route: Oral
Result: negative

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

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Carcinogenicity

Components:

Talc (Mg₃H₂(SiO₃)₄):

Species: Rat

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

IARC

Group 1: Carcinogenic to humans

Talc (Mg₃H₂(SiO₃)₄) 14807-96-6

OSHA

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.

NTP

Known to be human carcinogen

Talc (Mg₃H₂(SiO₃)₄) 14807-96-6

Reproductive toxicity

Components:

Talc (Mg₃H₂(SiO₃)₄):

Reproductive toxicity - Assessment

: No effects on or via lactation

STOT - single exposure

Product:

Remarks: No data available

STOT - repeated exposure

Components:

Talc (Mg₃H₂(SiO₃)₄):

Exposure routes: Inhalation

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Talc (Mg₃H₂(SiO₃)₄):

Toxicity to fish

: LC50 (Danio rerio (Zebra fish)): > 5,000 mg/l
Exposure time: 24 h
Test Type: semi-static test

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Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : Very toxic to aquatic organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : In accordance with local and national regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulation

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

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

Not applicable for product as supplied.

National Regulations

49 CFR

Not regulated as a dangerous good

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SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Component RQ (lbs)
Mancozeb	8018-01-7		*
Mancozeb	8018-01-7	5000	*
Mancozeb	8018-01-7		*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SSARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard

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

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

manganese ethylenebis(dithiocarbamate) (polimeric) complex with zinc salt	8018-01-7	50 %
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Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

manganese ethylenebis(dithiocarbamate) (polimeric) complex with zinc salt	8018-01-7	50 %
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This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

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manganese ethylenebis(dithiocarbamate) (polimeric) complex with zinc salt 8018-01-7 50 %

California Prop. 65 WARNING! This product contains a chemical known to the State of California to cause cancer.

manganese ethylenebis(dithiocarbamate) (polimeric) complex with zinc salt 8018-01-7
Talc (Mg₃H₂(SiO₃)₄) 14807-96-6

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

FIFRA Hazard Information:

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The pesticide label also includes other important information, including directions for use.

The hazard information required on the pesticide label is reproduced below.

CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

This pesticide product is toxic to aquatic organisms. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate. Drift or runoff from treated areas may be hazardous to aquatic organisms in neighboring areas.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

(Q)SAR - (Quantitative) Structure Activity Relationship; ASTM - American Society for the Testing of Materials; bw - Body weight; DIN - Standard of the German Institute for Standardisation; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous

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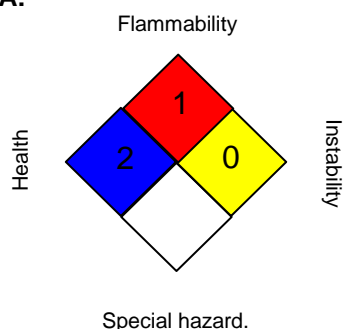
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Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; DOT - Department of Transportation; EHS - Extremely Hazardous Substance; HMIS - Hazardous Materials Identification System; MSHA - Mine Safety and Health Administration; NFPA - National Fire Protection Association; RCRA - Resource Conservation and Recovery Act; RQ - Reportable Quantity; SARA - Superfund Amendments and Reauthorization Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice; ERG - Emergency Response Guide; NTP - National Toxicology Program; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

Further information

NFPA:



HMIS III:

HEALTH	2*
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date : 10/08/2015

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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Carechem24 International Worldwide Coverage

Emergency Phone Number

<u>Europe:</u>	All European Countries	+44 (0) 1235 239 670 (NCEC)
<u>Asia Pacific:</u>	East / South East Asia – Regional Number	+65 3158 1074
	Australia	+61 2801 44558
	New Zealand	+64 9929 1483
	China	+86 532 8388 9090
	China Taiwan	+86 10 5100 3039
	Japan	+81 345 789 341
	Indonesia	00780 3011 0293
	Malaysia	+60 3 6207 4347
	Thailand	001800 1 2066 6751
	Korea	+65 3158 1285 +82 (0)234 798 401
	Vietnam	+65 3158 1255
	India	+65 3158 1198 0800 100 7479
	Pakistan	+65 3158 1329
	Philippines	+65 31581203
	Sri Lanka	+65 3158 1195
	Emergency Phone Number	+65 3158 1200
<u>Middle East / Africa:</u>	Arabic speaking countries	+44 (0) 1235 239 671
	South Africa	+27 21 300 2732
	All other countries	+44 (0) 1235 239 670
<u>America</u>	United States of America and Canada	+1866 928 0789 +1 215 207 0061
<u>Latin America:</u>	Brazil	+55 113 711 9144
	Mexico	+52 555 004 8763
	Chile	+56 225 829 336
	All other countries	+44 (0) 1235 239 670