

# SAFETY DATA SHEET

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## SECTION 1: IDENTIFICATION

PRODUCT NAME: GRAIN FOR SEED TREATED WITH FUNGICIDE  
BARLEY, WINTER WHEAT AND TRITICALE, SPRING WHEAT AND TRITICALE

SDS NUMBER: TREATED SEED

SYNONYMS/OTHER MEANS OF IDENTIFICATION:

INTENDED USE: SEED

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### SDS INFORMATION:

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## SECTION 2: HAZARD(S) IDENTIFICATION

CLASSIFICATION: COMBUSTIBLE DUST/RESPIRATORY HAZARD IF SMALL PARTICLES ARE GENERATED DURING FURTHER PROCESSING, HANDLING OR BY OTHER MEANS.

LABEL ELEMENTS:

SIGNAL WORD: WARNING

HAZARD STATEMENT(S): CLASS 2B EYE IRRITANT. MAY CAUSE BREATHING DIFFICULTIES IF INHALED.

IF SMALL PARTICLES ARE GENERATED DURING FURTHER PROCESSING, HANDLING OR BY OTHER MEANS, MAY FORM COMBUSTIBLE DUST CONCENTRATIONS IN AIR.

PRECAUTIONARY STATEMENT(S): DUST FROM PARTICULATES MAY BE A MECHANICAL EYE IRRITANT. RINSE EYES WITH WATER FOR SEVERAL MINUTES.

AVOID BREATHING DUST. EXCESSIVE INHALATION MAY AFFECT NOSE, THROAT AND LUNGS. AVOID IGNITION SOURCES: GRAIN DUST MAY BURN IF SUSPENDED IN AIR AND MAY CREATE A FLASH FIRE/ EXPLOSION HAZARD.

EMERGENCY OVERVIEW: DUST FROM PARTICULATES MAY BE MECHANICAL IRRITANT TO EYES. EXCESSIVE INHALATION OF GRAIN DUSTS MAY AFFECT NOSE THROAT, AND LUNGS. MAY FORM COMBUSTIBLE DUST CONCENTRATION IN AIR; SEE "EXPLOSION HAZARD" BELOW.

EXPLOSION HAZARD: GRAIN IS GENERALLY CONSIDERED NOT HAZARDOUS BUT DUST GENERATED THROUGH DOWNSTREAM ACTIVITIES THAT MAY REDUCE ITS PARTICLE SIZE (E.G., SHIPPING, HANDLING, TRANSFER TO BINS, ETC.) MAY CREATE A HAZARDOUS CONDITION.

IF EXPOSED TO AN IGNITION SOURCE, DUST MAY BURN. AIRBORNE DUST IN SUFFICIENT CONCENTRATIONS WHEN EXPOSED TO AN IGNITION SOURCE MAY FLASH OR, IN A CONFINED SITUATION, MAY FUEL AN EXPLOSION.

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## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS NUMBER	CONCENTRATION
WHOLE GRAINS		UP TO 99%
FOREIGN MATERIAL (e.g. ORGANIC PLANT MATERIAL)		0-2%
GRAIN DUST		0-5%
DIVIDEND EXTREME (FUNGICIDE) BY SYNGENTA		1-4 oz per 100 lbs seed
DIFENOCONAZOLE	119446-68-3	7.73% of Dividend Extreme
MEFENOXAM	70630-17-0 AND 69516-34-3	1.93% of Dividend Extreme

## SECTION 4: FIRST AID MEASURES

INHALATION: REMOVE PERSON FROM EXPOSURE. SEEK MEDICAL ATTENTION FOR ANY BREATHING DIFFICULTY.

INGESTION: IF SWALLOWED, GIVE SEVERAL GLASSES OF WATER TO DILUTE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

SKIN CONTACT: WASH AFFECTED SKIN WITH SOAP AND WATER.

EYE CONTACT: FLUSH EYES WITH WATER. SEEK MEDICAL ATTENTION AS NEEDED.

## SECTION 5: FIREFIGHTING MEASURES

FLASH POINT (METHOD): N/A

FLAMMABLE LIMITS:                      LEL: UNKNOWN                      UEL: UNKNOWN

AUTOIGNITION TEMPERATURE: UNKNOWN

HAZARDOUS COMBUSTION PRODUCTS: OXIDES OF CARBON

SPECIAL FIREFIGHTING PROCEDURES: EXTINGUISH WITH WATER FOG, DRY CHEMICAL POWDERS OR FOAM. DO NOT USE STRONG STREAMS OF WATER OR DRY CHEMICAL IF DUST CAN BE DISPERSED INTO THE AIR. DUST PLACED IN SUSPENSION WITH AN IGNITION SOURCES PRESENT MAY FLASH OR EXPLODE.

UNUSUAL FIRE AND EXPLOSION HAZARDS: WHOLE GRAIN IS NOT EXPLOSIVE. FINE DUST DISPERSED IN AIR AT A SUFFICIENT CONCENTRATION MAY IGNITE IF EXPOSED TO AN IGNITION SOURCE.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

CLEAN UP WITH SOFT BRISTLE BROOM(S) OR A VACUUM APPROVED FOR A CLASS II HAZARDOUS LOCATION. DUST DEPOSITS SHOULD BE MAINTAINED TO A MINIMUM ON SURFACES, AS THESE COULD FORM AN EXPLOSIVE MIXTURE IF THEY ARE RELEASED INTO THE ATMOSPHERE IN SUFFICIENT CONCENTRATION. AVOID DISPERSAL OF DUST IN THE AIR (I.E., CLEANING DUST SURFACES WITH COMPRESSED AIR IN THE PRESENCE OF IGNITION SOURCE SHOULD NOT BE ALLOWED).

## SECTION 7: HANDLING AND STORAGE

FINE DUST DISPERSED IN AIR AT A SUFFICIENT CONCENTRATION MAY IGNITE IF EXPOSED TO AN IGNITION SOURCE. REMOVE GRAIN DUST FROM AREA/PROCESSING EQUIPMENT PRIOR TO USING ANY HEAT PRODUCING EQUIPMENT SUCH AS ARC WELDERS, CUTTING TORCHES AND SPARK/HEAT PRODUCING TOOLS SUCH AS PORTABLE SURFACE GRINDERS. ACCORDING TO 29 CFR 1910.272(F) A HOT WORK PERMIT IS REQUIRED.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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RESPIRATORY PROTECTION: WEAR AN APPROVED NIOSH DUST RESPIRATOR WHENEVER DUST CONCENTRATIONS IN THE WORK AREA ARE ABOVE ACGIH TLV/OSHA PELS

GRAIN DUST (WHEAT, OAT AND BARLEY)

OSHA PEL	ACGIH TLV
10 MG/M3	4MG/M3*

GRAIN DUST (OTHER GRAINS)

OSHA PEL	ACGIH TLV
15 MG/M3 (TOTAL)	10 MG/M3*
5 MG/M3 (RESPIRABLE)	

\* THIS TLV APPLIES TO NUISANCE PARTICULATES.

VENTILATION: LOCAL EXHAUST: IF NEEDED

MECHANICAL (GENERAL): IF NEEDED

ENSURE THAT DUST HANDLING SYSTEMS (SUCH AS EXHAUST DUCTS, DUST COLLECTORS, VESSELS, AND PROCESSING EQUIPMENT) ARE DESIGNED IN A MANNER TO PREVENT THE ESCAPE OF DUST INTO THE WORK AREAS. USE ONLY APPROPRIATELY CLASSIFIED ELECTRICAL EQUIPMENT AND POWERED INDUSTRIAL TRUCKS.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

PROTECTIVE GLOVES: CHEMICAL RESISTANT GLOVES MADE OF ANY WATERPROOF MATERIAL  
EYE PROTECTION: SAFETY GLASSES / GOGGLES SUGGESTED IN DUSTY CONDITIONS  
LONG SLEEVE SHIRT AND LONG PANTS  
SHOES PLUS SOCKS

WORK/ HYGIENIC PRACTICES: GOOD PERSONAL HYGIENE PRACTICES SHOULD BE FOLLOWED. USERS SHOULD WASH HANDS BEFORE EATING, DRINKING, CHEWING GUM, USING TOBACCO, OR USING THE TOILET

USE THIS PRODUCT ONLY IN ACCORDANCE WITH ITS LABELING AND WITH THE WORKER PROTECTION STANDARD, 40 CFR PART 170. THIS STANDARD CONTAINS REQUIREMENTS FOR THE PROTECTION OF AGRICULTURAL WORKERS ON FARMS, FORESTS, NURSERIES, AND GREENHOUSES, AND HANDLERS OF AGRICULTURAL PESTICIDES. IT CONTAINS REQUIREMENTS FOR TRAINING, DECONTAMINATION, NOTIFICATION, AND EMERGENCY ASSISTANCE. IT ALSO CONTAINS SPECIFIC INSTRUCTIONS AND EXCEPTIONS PERTAINING TO THE STATEMENTS ON THIS SDS ABOUT PERSONAL PROTECTIVE EQUIPMENT (PPE) AND RESTRICTED-ENTRY INTERVAL. THESE REQUIREMENTS ONLY APPLY TO USES OF THIS PRODUCT THAT ARE COVERED BY THE WORKER PROTECTION STANDARD.

**DO NOT ENTER OR ALLOW WORKER ENTRY INTO TREATED AREAS DURING THE RESTRICTED-ENTRY INTERVAL (REI) OF 48 HOURS.** EXCEPTION: IF THE SEED IS TREATED WITH THE PRODUCT AND THE TREATED SEED IS SOIL-INJECTED OR SOIL-INCORPORATED, THE WORKER PROTECTION STANDARD, UNDER CERTAIN CIRCUMSTANCES, ALLOWS WORKERS TO ENTER THE TREATED AREA IF THERE WILL BE NO CONTACT WITH ANYTHING THAT HAS BEEN TREATED.

PPE REQUIRED FOR EARLY ENTRY TO TREATED AREAS THAT IS PERMITTED UNDER THE WORKER PROTECTION STANDARD AND THAT INVOLVES CONTACT WITH ANYTHING THAT HAS BEEN TREATED, SUCH AS PLANTS, SOIL, OR WATER, IS:

- COVERALLS
- CHEMICAL-RESISTANT GLOVES MADE OF ANY WATERPROOF MATERIAL
- SOCKS PLUS SHOES

AVOID EXCESSIVE DUST ACCUMULATION AND CONTROL IGNITION SOURCES. WHERE APPROPRIATE, EMPLOY GROUNDING, VENTING, AND EXPLOSION RELIEF PROVISIONS IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICES IN PROCESSES CAPABLE OF GENERATING DUST AND/OR STATIC ELECTRICITY

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

FLASH POINT (METHOD): N/A

FLAMMABLE LIMITS: LEL: UNKNOWN UEL: UNKNOWN

AUTOIGNITION TEMPERATURE: UNKNOWN

APPEARANCE:

WHOLE GRAIN - NATURAL GRAIN COLOR

GRAIN DUST - LIGHT, GRAYISH OR BROWN POWDER

UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:

WHEN DISPERSED INTO THE AIR IN SUFFICIENT CONCENTRATIONS GRAIN DUST CAN EXPLODE IN THE PRESENCE OF AN IGNITION SOURCE. DO NOT ALLOW DUST TO BECOME DISPERSED INTO THE AIR, EVEN BY THE EXTINGUISHING AGENT. MINIMUM EXPLOSIVE CONCENTRATION IS 55 G/M3. HOWEVER, MOISTURE CONTENT, PARTICLE SIZE, CALORIC PROPERTIES, AND SPECIFIC INGREDIENTS ALSO AFFECT THE EXPLOSIVENESS OF GRAIN DUST.

THE FLASH POINT AND FLAMMABLE LIMITS ARE ACCURATE BECAUSE GRAIN DUST HAS NO FLASH POINT, LEL, OR UEL DUE TO ITS PROPERTIES. THE FIREFIGHTING MEASURES LISTED ARE IN ACCORD WITH OTHER SIMILAR SDS.

FOR AN EXPLOSION TO OCCUR, FOUR CONDITIONS MUST EXIST: FIRST, OXYGEN MUST BE PRESENT. SECOND, THERE MUST BE AN IGNITION SOURCE (E.G. ELECTRICAL SHORT, SPARKS, ETC.). THIRD, THERE MUST BE FUEL (E.G. GRAIN DUST IN SUSPENSION). FOURTH, THERE MUST BE CONTAINMENT OF SUSPENDED GRAIN DUST (I.E. SILO, VESSEL, ETC.). ALTHOUGH AN EXPLOSION WILL NOT OCCUR IF THERE IS NO CONTAINMENT, THE DUST CAN STILL IGNITE, RESULTING IN A FIRE.

AS NOTED EXPLOSIONS ARE DEPENDENT UPON THE CONCENTRATION OF THE FUEL (E.G. GRAIN DUST) SUSPENDED IN THE AIR. THE MINIMUM EXPLOSIVE CONCENTRATION (MEC) FOR GRAIN DUST IS AROUND 55 G/M3 THE MEC VARIES ACCORDING TO THE PARTICLE SIZE AND CALORIC PROPERTIES OF THE PRODUCT. IN ADDITION, THE SPECIFIC INGREDIENTS OF THE GRAIN DUST WILL AFFECT THE MEC. THEREFORE, THE LISTED MEC RANGE WOULD BE APPROPRIATE.

THE FOLLOWING INSERT TAKEN FROM "PREVENTING GRAIN DUST EXPLOSIONS" EXPLAINS EXPLOSIVE LIMITS FOR GRAIN DUST:

"A TEXAS A & M UNIVERSITY DUST CONTROL SCIENTIST SUGGESTS THAT THE MEC RANGE IS ABOUT 50 TO 150 GRAMS PER CUBIC METER, DEPENDING ON THE TYPE OF DUST AND THE SIZE OF PARTICLES (PARNELL, 1998). THIS EQUATES TO THE SAME MEC LEVEL USED BY THE NATIONAL GRAIN AND FEED ASSOCIATION (NGFA). NGFA STATES THAT THE BROAD, GENERALLY ACCEPTED MEC FOR GRAIN DUST EXPLOSIONS IS ABOUT 0.05 OUNCES PER CUBIC FOOT OF VOLUME. IT SAYS THAT THE OPTIMUM EXPLOSIVE CONCENTRATION (DEC) IS ABOUT 0.5 TO 1.0 OUNCES PER CUBIC FOOT - ABOUT 10 TIMES THE MEC (GILLIS, 1985, P. 43)."

ODOR: NO DISTINCT ODOR (OUT-OF-CONDITION PRODUCTS MAY BE SOUR OR MUSTY)

VAPOR PRESSURE: N/A

ODOR THRESHOLD: N/A

VAPOR DENSITY: N/A

PH: N/A

MELTING POINT/FREEZING POINT: N/A

SOLUBILITY (IES): N/A

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INITIAL BOILING POINT AND BOILING RANGE: N/A  
PARTITION COEFFICIENT N-OCTANOL/WATER: N/A  
FLASH POINT: N/A  
AUTO-IGNITION TEMPERATURE: N/A  
EVAPORATION RATE: N/A  
DECOMPOSITION TEMPERATURE: N/A

## SECTION 10: STABILITY AND REACTIVITY

### STABILITY:

CONDITION TO AVOID: DISPERSING DUST IN AIR, ABOVE MEC, AND EXPOSURE TO POTENTIAL IGNITION SOURCES

STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): NONE KNOWN

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: CO<sub>2</sub>, H<sub>2</sub>S AND OXYGEN DEFICIENT ATMOSPHERE UNDER IMPROPER STORAGE CONDITIONS.

### HAZARDOUS POLYMERIZATION:

CONDITION TO AVOID: N/A

WILL NOT OCCUR: X

REACTIVITY: NONE KNOWN

## SECTION 11: TOXICOLOGICAL INFORMATION

### ROUTES OF EXPOSURE:

INHALATION: X

SKIN: X

EYES: X

INGESTION: UNLIKELY

### CARCINOGENICITY:

NTP: NO

ARC MONOGRAPHS: NO

OSHA REGULATED: NO

ACUTE: MAY BE MECHANICAL IRRITANT TO SKIN AND EYES. EXCESSIVE INHALATION OF GRAIN DUSTS MAY AFFECT THE NOSE, THROAT, AND LUNGS.

CHRONIC: REPEATED AND PROLONGED EXPOSURE TO GRAIN DUSTS MAY AFFECT THE RESPIRATORY SYSTEM OR CAUSE SENSITIZATION. SMOKERS HAVE AN INCREASED RISK OF RESPIRATORY EFFECTS.

SIGNS AND SYMPTOMS OF EXPOSURE: IRRITATION TO THE SKIN, EYES, NOSE OR THROAT MAY OCCUR. SOME PEOPLE MAY OCCASIONALLY EXPERIENCE COUGHING.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: ALLERGIES AND RESPIRATORY AILMENTS.

## SECTION 12: ECOLOGICAL INFORMATION:

ENVIRONMENTAL HAZARDS: THIS PRODUCT IS TOXIC TO FISH AND AQUATIC INVERTEBRATES. DO NOT APPLY DIRECTLY TO WATER, 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 WASH WATERS OR RINSATE.

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IF TREATED SEED IS SPILLED OUTDOORS OR IN AREAS ACCESSIBLE TO BIRDS, PROMPTLY CLEAN UP OR BURY TO PREVENT INGESTION.

GROUND WATER ADVISORY: THIS CHEMICAL (DIVIDEND EXTREME) IS KNOWN TO LEACH THROUGH SOIL INTO GROUNDWATER UNDER CERTAIN CONDITIONS AS A RESULT OF AGRICULTURAL USE. USE OF THIS CHEMICAL IN AREAS WHERE SOILS ARE PERMEABLE, PARTICULARLY WHERE THE WATER TABLE IS SHALLOW, MAY RESULT IN GROUNDWATER CONTAMINATION.

SECTION 13: DISPOSAL CONSIDERATIONS: DISPOSE OF MATERIAL IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.

SECTION 14: TRANSPORT INFORMATION: SHIP AS SEED.

SECTION 15: REGULATORY INFORMATION:

ALL ELECTRICAL EQUIPMENT MUST BE SUITABLE FOR USE IN HAZARDOUS ATMOSPHERES INVOLVING COMBUSTIBLE DUST IN ACCORDANCE WITH 29 CFR 1910.307. THE NATIONAL ELECTRICAL CODE, NFPA 70, CONTAINS GUIDELINES FOR DETERMINING THE TYPE AND DESIGN OF EQUIPMENT AND INSTALLATION, WHICH WILL MEET THIS REQUIREMENT.

COMBUSTIBLE DUST IS A "HAZARD, OTHER THAN CHEMICAL" AS DEFINED BY THE OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

FEDERAL LAW REQUIRES THAT BAGS CONTAINING TREATED SEEDS SHALL BE LABELED WITH THE FOLLOWING INFORMATION: "THIS SEED HAS BEEN TREATED WITH THE FUNGICIDES DFENOCONAZOLE (CAS NO. 119446-68-3) AND MEFENOXAM (CAS NOS. 70630-17-0 AND 69516-34-3). DO NOT USE FOR FEED, FOOD, OR OIL PURPOSES. STORE AWAY FROM FEEDS AND FOODSTUFFS. GREEN WHEAT OR TRITICALE FORAGE MAY NOT BE GRAZED UNTIL 55 DAYS AFTER PLANTING. GREEN BARLEY FORAGE MAY NOT BE GRAZED UNTIL 30 DAYS AFTER PLANTING. DO NOT PLANT ANY CROP OTHER THAN THOSE ON THE LABEL WITHIN 30 DAYS TO FIELDS IN WHICH TREATED SEEDS WERE PLANTED."

THE INFORMATION IN THIS SDS WAS OBTAINED FROM SOURCES THAT WE BELIEVE ARE RELIABLE; HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, REGARDING THE ACCURACY OR CORRECTNESS. THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE, OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE, OR DISPOSAL OF THIS PRODUCT.

Revised: June 5, 2015