

MONSANTO COMPANY

Material Safety Data Sheet Commercial Product

1. PRODUCT AND COMPANY IDENTIFICATION

Product name

HARNESS® 20G Herbicide

EPA Reg. No.

524-487

Product use

Herbicide

Chemical name

Not applicable

Synonyms

None

Company

MONSANTO COMPANY, 800 N. Lindbergh Blvd., St. Louis, MO, 63167

Telephone: 800-332-3111, **Fax:** 314-694-5557

Emergency numbers

FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT Call CHEMTREC - Day or Night: 1-800-424-9300 toll free in the continental U.S., Puerto Rico, Canada, or Virgin Islands. For calls originating elsewhere: 703-527-3887 (collect calls accepted).

FOR MEDICAL EMERGENCY - Day or Night: 314-694-4000 (collect calls accepted).

2. COMPOSITION/INFORMATION ON INGREDIENTS

Active ingredient

2-chloro-N-(ethoxymethyl)-N-(2-ethyl-6-methylphenyl) acetamide; { Acetochlor }

Composition

COMPONENT	CAS No.	% by weight (approximate)
Acetochlor	34256-82-1	20
Clay	1302-87-0	>=70 - <=80
Quartz	14808-60-7	<=2
Minor formulating ingredients		<=10

The specific chemical identity is being withheld because it is trade secret information of Monsanto Company.

OSHA Status

This product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

3. HAZARDS IDENTIFICATION

Emergency overview

Appearance and odour (colour/form/odour): White - Brown / Granules / Mothball

RESTRICTED USE PESTICIDE due to oncogenicity.

CAUTION!

CAUSES MODERATE EYE IRRITATION

Potential health effects

Likely routes of exposure

Skin contact, eye contact, inhalation

Eye contact, short term

Causes temporary eye irritation.

Skin contact, short term

May cause allergic skin reaction.

Inhalation, short term

Not expected to produce significant adverse effects when recommended use instructions are followed.

Carcinogenicity

May cause cancer.

Refer to section 11 for toxicological and section 12 for environmental information.

4. FIRST AID MEASURES

Eye contact

Immediately flush with plenty of water.

If easy to do, remove contact lenses.

If there are persistent symptoms, obtain medical advice.

Skin contact

Immediately wash affected skin with plenty of water.

Use soap if available.

Take off contaminated clothing, wristwatch, jewellery.

Wash clothes before re-use.

Get medical attention.

Inhalation

Remove to fresh air.

Ingestion

Rinse mouth thoroughly with water.

Remove particles from mouth.

Immediately offer water to drink.

Never give anything by mouth to an unconscious person.

Do NOT induce vomiting unless directed by medical personnel.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Recommended: Water, foam, dry chemical, carbon dioxide (CO₂)

Unusual fire and explosion hazards

Minimise use of water to prevent environmental contamination.

Environmental precautions: see section 6.

Hazardous products of combustion

Carbon monoxide (CO), nitrogen oxides (NO_x), hydrogen chloride (HCl), sulphur oxides (SO_x), oxides of silica

Fire fighting equipment

Self-contained breathing apparatus.

Equipment should be thoroughly decontaminated after use.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protection recommended in section 8.

Environmental precautions

Minimise spread.
Keep out of drains, sewers, ditches and water ways.

Methods for cleaning up

SMALL QUANTITIES:
Collect in containers for disposal.
LARGE QUANTITIES:
Dig up heavily contaminated soil.
Collect in containers for reclamation or disposal.
Minimise use of water to prevent environmental contamination.

Refer to section 13 for disposal of spilled material.

7. HANDLING AND STORAGE

Good industrial practice in housekeeping and personal hygiene should be followed.

Handling

Avoid contact with eyes, skin and clothing.
Avoid prolonged or repeated contact with skin.
Wash hands thoroughly after handling or contact.
Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
Wash contaminated clothing before re-use.
Thoroughly clean equipment after use.
Do not contaminate drains, sewers and water ways when disposing of equipment rinse water.
Refer to section 13 for disposal of rinse water.
Emptied packages retain product residue and dust.
FOLLOW LABELED WARNINGS EVEN AFTER CONTAINER IS EMPTIED.

Storage

Keep out of reach of children.
Keep away from food, drink and animal feed.
Minimum shelf life: 2 years.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne exposure limits

Components	Exposure Guidelines
Acetochlor	No specific occupational exposure limit has been established.
Clay	TLV (ACGIH): 10 mg/m ³ : inhalable fraction, PNOS (Particulates [Insoluble] Not Otherwise Specified) TLV (ACGIH): 3 mg/m ³ : respirable fraction, PNOS (Particulates [Insoluble] Not Otherwise Specified) PEL (OSHA): 15 mg/m ³ : total dust, PNOR (Particulates Not Otherwise Regulated) PEL (OSHA): 5 mg/m ³ : respirable fraction, PNOR (Particulates Not Otherwise Regulated)
Quartz	TLV (ACGIH): 0.05 mg/m ³ : respirable fraction PEL (OSHA): 30 mg/m ³ / % SiO ₂ + 2: total dust PEL (OSHA): 10 mg/m ³ / % SiO ₂ + 2: respirable fraction

Minor formulating ingredients	No specific occupational exposure limit has been established.
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Engineering controls

Provide adequate ventilation to keep airborne concentration below exposure limits.

Eye protection

If there is significant potential for contact:

Wear dust goggles.

Skin protection

If repeated or prolonged contact:

Wear chemical resistant gloves.

Respiratory protection

No special requirement when used as recommended.

If airborne exposure is excessive:

Wear respirator.

Respiratory protection programs must comply with all local/regional/national regulations.

When recommended, consult manufacturer of personal protective equipment for the appropriate type of equipment for a given application.

9. PHYSICAL AND CHEMICAL PROPERTIES

These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

Colour/colour range:	White - Brown
Form:	Granules
Odour:	Mothball

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions of handling and storage.

Hazardous decomposition

Thermal decomposition: When heated may give off irritant/corrosive fumes.

Hazardous products of combustion: see section 5.

Hazardous polymerization

Does not occur.

11. TOXICOLOGICAL INFORMATION

This section is intended for use by toxicologists and other health professionals.

Data obtained on product and components are summarized below.

Acute oral toxicity

Rat, LD50: 7,490 mg/kg body weight

Practically non-toxic.

FIFRA category IV.

Acute dermal toxicity

Rat, LD50: > 5,000 mg/kg body weight
Practically non-toxic.
FIFRA category IV.
No mortality.

Acute inhalation toxicity

Rat, LC50, 4 hours, dust: > 2.7 mg/L
Practically non-toxic.
FIFRA category IV.
No mortality.

Skin irritation

Rabbit, 6 animals, OECD 404 test:
Days to heal: 2
Primary Irritation Index (PII): 0.3/8.0
FIFRA category IV.
Essentially non irritating.

Eye irritation

Rabbit, 6 animals, Draize test:
Days to heal: 7
Moderate irritation.
FIFRA category III.

Skin sensitization

Guinea pig, Buehler test:
Positive incidence: 20 %
Equivocal response.

Acetochlor

Data obtained on product are summarized below.

Mutagenicity

In vitro and in vivo mutagenicity test(s):
Not mutagenic on the basis of weight-of-evidence analysis.

Carcinogenicity

Rat, oral:
NOEL tumour: 200 mg/kg diet
Tumours: nose (adenoma)
Tumours only at or above MTD. Tumours not relevant for man based on mechanistic data.

Mouse, oral:
NOEL tumour: < 500 mg/kg diet
Tumours: liver (carcinoma), lung (adenoma), lung (carcinoma), uterus (sarcoma)
Tumours only at or above MTD.

Toxicity to reproduction/fertility

Rat, oral, 2 generations:
NOEL toxicity: 500 mg/kg diet
NOEL reproduction: 500 mg/kg diet
Target organs/systems in parents: kidneys, spleen
Other effects in parents: weight loss
Other effects in pups: weight loss, decrease of litter survival
Effects on offspring only observed with maternal toxicity.

Developmental toxicity/teratogenicity

Rat, oral, 6 - 18 days of gestation:
NOEL toxicity: 200 mg/kg body weight
NOAEL development: > 400 mg/kg body weight
Other effects in mother animal: decrease of body weight gain

Rabbit, oral, 7 - 19 days of gestation:
NOEL toxicity: 50 mg/kg body weight

NOEL development: > 190 mg/kg body weight
Target organs/systems in mother animal: none
Other effects in mother animal: decrease of body weight gain
No adverse treatment related effects in offspring.

EXPERIENCE WITH HUMAN EXPOSURE

Skin contact, short term, occupational:

Skin effects: sensitization in susceptible individuals

Clay

EXPERIENCE WITH HUMAN EXPOSURE

Skin contact, excessive, occupational:

Skin effects: irritation

Eye contact, short term, occupational:

Eye effects: irritation, abrasion of eye (corneal abrasion)

Inhalation, excessive, :

Respiratory effects: cough, irritation

Quartz

Carcinogenicity

Various species, inhalation:

Tumours: lung (adenocarcinoma) (squamous cell carcinoma)

Target organs/systems: lung, fibrosis (silicosis)

EXPERIENCE WITH HUMAN EXPOSURE

Inhalation, excessive, occupational:

Respiratory effects: irritation, cough

Inhalation, repeated, occupational:

Respiratory effects: fibrosis (silicosis), (adenocarcinoma), (squamous cell carcinoma)

12. ECOLOGICAL INFORMATION

This section is intended for use by ecotoxicologists and other environmental specialists.

Data obtained on active ingredient(s) are summarized below.

Acetochlor

Data obtained on active ingredient(s) are summarized below.

Aquatic toxicity, fish

Rainbow trout (*Oncorhynchus mykiss*):

Acute toxicity, 96 hours, static, LC50: 0.36 - 0.45 mg/L

Highly toxic.

Bluegill sunfish (*Lepomis macrochirus*):

Acute toxicity, 96 hours, static, LC50: 1.3 - 1.7 mg/L

Moderately toxic.

Aquatic toxicity, invertebrates

Water flea (*Daphnia magna*):

Acute toxicity, 48 hours, static, EC50: 8.6 - 16 mg/L

Aquatic toxicity, algae/aquatic plants

Green algae (*Selenastrum capricornutum*):

Acute toxicity, 120 hours, static, ErC50 (growth rate): 1.9 - 3.1 µg/L

Very highly toxic.

Blue-green algae (*Anabaena flos-aquae*):

Acute toxicity, 120 hours, static, ErC50 (growth rate): 110 mg/L

Practically non-toxic.

Avian toxicity

Bobwhite quail (*Colinus virginianus*):

Acute oral toxicity, single dose, LD50: > 31 - 1,260 mg/kg body weight

Mallard duck (*Anas platyrhynchos*):

Acute oral toxicity, single dose, LD50: > 2,000 mg/kg body weight

Practically non-toxic.

Mallard duck (*Anas platyrhynchos*):

Dietary toxicity, 5 days, LC50: > 5,620 mg/kg diet

Practically non-toxic.

Bobwhite quail (*Colinus virginianus*):

Dietary toxicity, 5 days, LC50: > 5,620 mg/kg diet

Practically non-toxic.

Arthropod toxicity

Honey bee (*Apis mellifera*):

Contact, 48 hours, LD50: 1,715 µg/bee

Practically non-toxic.

Soil organism toxicity, invertebrates

Earthworm (*Eisenia foetida*):

Acute toxicity, 14 days, LC50: 380.5 mg/kg dry soil

Slightly toxic.

Bioaccumulation

Bluegill sunfish (*Lepomis macrochirus*):

Whole fish: BCF: 84

Rapid depuration after end of exposure.

Dissipation

Soil, aerobic, 20 °C:

Half life: 3.4 - 29 days

Koc: 74 - 422 L/kg

Water, aerobic, 20 °C:

Half life: 12 days

13. DISPOSAL CONSIDERATIONS

Product

Excess product may be disposed of by agricultural use according to label instructions.

Keep out of drains, sewers, ditches and water ways.

Recycle if appropriate facilities/equipment available.

Burn in special, controlled high temperature incinerator.

Follow all local/regional/national/international regulations.

Container

See the individual container label for disposal information.

Emptied packages retain product residue and dust.

Observe all labelled safeguards until container is cleaned, reconditioned or destroyed.

Empty packaging completely.

Ensure packaging cannot be reused.

Do NOT re-use containers.

Store for collection by approved waste disposal service.

Recycle if appropriate facilities/equipment available.

Follow all local/regional/national/international regulations.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

Not hazardous under the applicable DOT, ICAO/IATA, IMO, TDG and Mexican regulations.

15. REGULATORY INFORMATION

IARC Classification

Category 1 Chemical(s)
Quartz

National Toxicology Program (NTP) Information

Known Carcinogen(s)
Quartz

TSCA Inventory

All components are on the US EPA's TSCA Inventory

OSHA Hazardous Components

Acetochlor
Quartz

SARA Title III Rules

Section 311/312 Hazard Categories
Immediate, Delayed
Section 302 Extremely Hazardous Substances
Not applicable.
Section 313 Toxic Chemical(s)
Not applicable.

CERCLA Reportable quantity

Not applicable.

16. OTHER INFORMATION

The information given here is not necessarily exhaustive but is representative of relevant, reliable data.

Follow all local/regional/national/international regulations.

Please consult supplier if further information is needed.

In this document the British spelling was applied.

	Health	Flammability	Instability	Additional Markings
NFPA	2	1	1	

Endnotes:

- {a} EU label (manufacturer self-classification)
- {b} EU label (Annex I)
- {c} National classification

Full denomination of most frequently used acronyms. BCF (Bioconcentration Factor), BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand), EC50 (50% effect concentration), ED50 (50% effect dose), I.M. (intramuscular), I.P. (intraperitoneal), I.V. (intravenous), Koc (Soil adsorption coefficient), LC50 (50% lethality concentration), LD50 (50% lethality dose), LDLo (Lower limit of lethal dosage), LEL (Lower Explosion Limit), LOAEC (Lowest Observed Adverse Effect Concentration), LOAEL (Lowest Observed Adverse Effect Level), LOEC (Lowest Observed Effect Concentration), LOEL (Lowest Observed Effect Level), MEL (Maximum Exposure limit), MTD (Maximum Tolerated Dose), NOAEC (No Observed Adverse Effect Concentration), NOAEL (No Observed Adverse Effect Level), NOEC (No Observed Effect Concentration), NOEL (No Observed Effect Level), OEL (Occupational Exposure Limit), PEL (Permissible Exposure Limit), PII (Primary Irritation Index), Pow (Partition coefficient n-octanol/water), S.C. (subcutaneous), STEL (Short-Term Exposure Limit), TLV-C (Threshold Limit Value-Ceiling), TLV-TWA (Threshold Limit Value - Time Weighted Average), UEL (Upper Explosion Limit)

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