

MONSANTO Europe S.A.
Material Safety Data Sheet
Commercial Product

1. PRODUCT AND COMPANY IDENTIFICATION

Product name

Harness Extra 960 EC

Product use

Herbicide

Chemical name

Not applicable.

Synonyms

None.

Company

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Active ingredient

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

Composition

Components	CAS No.	EINECS/ ELINCS No.	% by weight (approximate)	EU Symbols & R phrases of components
Acetochlor	34256-82-1	251-899-3	86.5	Xn, N; R20, 37/38, 43, 50/53; {b}
Emulsifier			7	Xi; R10, 37/38, 41, 67; {a}
Related impurities and minor formulating ingredients			6.5	

3. HAZARDS IDENTIFICATION

EU label (manufacturer self-classification) - Classification following the EU Dangerous Preparations' Directive 1999/45/EC.

Xi - Irritant, N - Dangerous for the environment

R43 May cause sensitization by skin contact.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Potential health effects

Likely routes of exposure

Skin contact, eye contact

Eye contact, short term

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

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.

Potential environmental effects

Very toxic to aquatic organisms.
May cause long-term adverse effects in the aquatic environment.

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.

Skin contact

Immediately wash affected skin with plenty of water.
Continue for at least 15 minutes.
Take off contaminated clothing, wristwatch, jewellery.
Pay particular attention to skin crevices, nail folds, scalp, etc.
If spilled into boots, remove immediately.
Wash clothes and clean shoes before re-use.
If there are persistent symptoms, obtain medical advice.

Inhalation

Remove to fresh air.

Ingestion

Immediately get medical advice from a poison control center or doctor.
Do NOT induce vomiting unless directed by medical personnel.

5. FIRE-FIGHTING MEASURES

Flash point

95 °C

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)

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.
Keep all non-essential people away from affected area.
Keep upwind of spillage.

Environmental precautions

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

Methods for cleaning up

Contain spillage with sand bags or other means.

Absorb in earth, sand or absorbent material.
Dig up heavily contaminated soil.
Collect in containers for disposal.
Place leaking containers in oversize leakproof drums for transport.
Refer to section 7 for types of containers.
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.
Avoid breathing vapour or mist.
Use only in well-ventilated areas.
Wash hands thoroughly after handling or contact.
Wash contaminated clothing before re-use.
When using do not eat, drink or smoke.
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.

Storage

Minimum storage temperature: -10 °C
Maximum storage temperature: 40 °C
Compatible materials for storage: stainless steel
Incompatible materials for storage: mild steel
Keep out of reach of children.
Keep away from food, drink and animal feed.
Keep only in the original container.
Use appropriate containment to avoid environmental contamination.
Minimum shelf life: 5 years.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne exposure limits

Components	Exposure Guidelines
Acetochlor	No specific occupational exposure limit has been established.
Emulsifier	TLV (ACGIH): 20 ppm (TWA): The exposure limit indicated is for butan-1-ol.
Related impurities and minor formulating ingredients	No specific occupational exposure limit has been established.

Engineering controls

No special requirement when used as recommended.

Eye protection

No special requirement when used as recommended.

Skin protection

Wear chemical resistant gloves.
If there is potential for contact:
Wear chemical resistant clothing/footwear.

Respiratory protection

No special requirement when used as recommended.

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:	Purple
Form:	Liquid
Odour:	Slight, Aromatic
Flash point:	95 °C
Specific gravity:	1.11 @ 20 °C / 4 °C
Solubility:	Water: Completely miscible.
pH:	7
Partition coefficient (log Pow):	4.14 @ 20 °C (acetochlor)

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.

Monsanto has not conducted toxicity studies on this product. Data obtained on active ingredient(s) are summarized below.

Acetochlor technical

Acute oral toxicity

Rat, LD50: 2,148 mg/kg body weight
Target organs/systems: gastro-intestinal tract

Acute dermal toxicity

Rabbit, LD50: 4,166 mg/kg body weight
Target organs/systems: kidneys, liver, skin
Other effects: prostration, convulsions, trembling (tremors)

Skin irritation

Rabbit, 6 animals, Draize test:
Redness, mean EU score: 0.08
Swelling, mean EU score: 0.00
Days to heal: 6

Eye irritation

Rabbit, 6 animals, OECD 405 test:
Conjunctival redness, mean EU score: 0.33
Conjunctival swelling, mean EU score: 0.33
Corneal opacity, mean EU score: 0.00
Iris lesions, mean EU score: 0.00

Days to heal: 3

Acute inhalation toxicity

Rat, LC50, 4 hours, aerosol:

Maximum attainable concentration. No mortality.

Skin sensitization

Guinea pig, 9-induction Buehler test:

Positive incidence: 100 %

Mutagenicity

In vitro and in vivo mutagenicity test(s):

Not mutagenic on the basis of weight-of-evidence analysis.

Repeated dose toxicity

Rat, oral, 91 days:

NOEL toxicity: 53.2 mg/kg body weight/day

Other effects: weight loss

Rabbit, dermal, 21 days:

NOEL toxicity: 400 mg/kg body weight/day

Chronic effects/carcinogenicity

Rat, oral, 24 months:

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, 23 months:

NOEL tumour: < 500 mg/kg diet

Tumours: liver (carcinoma), lung (adenoma) (carcinoma), uterus (sarcoma)

Tumours only at or above MTD. Tumours not relevant for man based on mechanistic data.

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/day

NOEL development: > 190 mg/kg body weight/day

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

12. ECOLOGICAL INFORMATION

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

Monsanto has not conducted environmental studies on this product. Data obtained on active ingredient(s) are summarized below.

Acetochlor technical

Aquatic toxicity, fish

Bluegill sunfish (*Lepomis macrochirus*):

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

Rainbow trout (*Oncorhynchus mykiss*):

Acute toxicity, 96 hours, static, LC50: 0.36 - 1.2 mg/L

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, 72 hours, static, ErC50 (growth rate): 0.52 - 2.60 µg/L

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

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

Avian toxicity

Bobwhite quail (*Colinus virginianus*):

Acute oral toxicity, single dose, LD50: > 31 - 1,560 mg/kg body weight

Mallard duck (*Anas platyrhynchos*):

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

Mallard duck (*Anas platyrhynchos*):

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

Bobwhite quail (*Colinus virginianus*):

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

Arthropod toxicity

Honey bee (*Apis mellifera*):

Oral, 48 hours, LD50: > 100 µg/bee

Honey bee (*Apis mellifera*):

Contact, 48 hours, LD50: > 200 µg/bee

Soil organism toxicity, invertebrates

Earthworm (*Eisenia foetida*):

Acute toxicity, 14 days, LC50: 211 - 397 mg/kg dry soil

Bioaccumulation

Bluegill sunfish (*Lepomis macrochirus*):

Whole fish: BCF: 20

Rapid depuration after end of exposure.

Dissipation

Water, aerobic, 20 °C:

Half life: 12 days

Soil, aerobic, 20 °C:

Half life: 12.9 days

Koc: 204

13. DISPOSAL CONSIDERATIONS

Product

- Keep out of drains, sewers, ditches and water ways.
- Recycle if appropriate facilities/equipment available.
- Dispose of as hazardous industrial waste.
- Burn in special, controlled high temperature incinerator.
- Follow all local/regional/national/international regulations.

Container

- See the individual container label for disposal information.
- Triple or pressure rinse empty containers.
- Pour rinse water into spray tank.
- Dispose of as hazardous industrial waste.
- Do NOT contaminate water when disposing of rinse waters.
- Emptied containers retain vapour and product residue.
- Store for collection by approved waste disposal service.
- Do NOT re-use containers.
- 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.

ADR/RID

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (acetochlor 86%)
 UN No.: UN3082
 Class: 9
 Kemler: 90
 Packing Group: III

IMO

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (acetochlor 86%)
 UN No.: UN3082
 Class: 9
 Packing Group: III

MARINE POLLUTANT

IATA/ICAO

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (acetochlor 86%)
 UN No.: UN3082
 Class: 9
 Packing Group: III

MARINE POLLUTANT

15. REGULATORY INFORMATION

EU label (manufacturer self-classification) - Classification following the EU Dangerous Preparations' Directive 1999/45/EC.

- Xi - Irritant, N - Dangerous for the environment
- R43 May cause sensitization by skin contact.
- R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- S24 Avoid contact with skin.
- S35 This material and its container must be disposed of in a safe way.
- S57 Use appropriate containment to avoid environmental contamination.

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. This Safety Data Sheet has been prepared following the EU Directive 91/155/EEC as last amended by EU Directive 2001/58/EC.

EU Symbols & R phrases of components

Components	EU Symbols & R phrases of components
Acetochlor	Xn - Harmful N - Dangerous for the environment R20 Harmful by inhalation. R37/38 Irritating to respiratory system and skin. R43 May cause sensitization by skin contact. R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Emulsifier	Xi - Irritant R10 Flammable. R37/38 Irritating to respiratory system and skin. R41 Risk of serious damage to eyes. R67 Vapours may cause drowsiness and dizziness.
Related impurities and minor	

formulating ingredients	
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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)

<p>Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, MONSANTO Company makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for the purposes prior to use. In no event will MONSANTO Company be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR TO THE PRODUCT TO WHICH INFORMATION REFERS.</p>

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