

Safety Data Sheet (SDS)

According to UN GHS 9th Ed

Revision Date: 2022/06/20

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Version: 1.5

SECTION 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING

Product identifier:

Identification as on the label/Trade name: **METOLACHLOR 840 EC**

Relevant identification uses of the substance and uses advised against:

Identified uses: Herbicide.

Uses advised against: Use only as directed.

Details of the supplier of the Safety Data Sheet:

Green Island Investments Pty Ltd

P.O Box 1822, Heidelberg 1438

Emergency telephone numbers:

Griffon Poison information centre: 082 446 8946

Poisons Information Helpline: 0861 555 777

Spill Tech: 086 100 0366 (a/h)

SECTION 2. HAZARD IDENTIFICATION

Classification of the substances or mixture

The mixture is classified according to

SANS 10234:2019, Regulation EC 1272/2008 [EU-GHS/CLP]	
Hazard classes/Hazard categories	Hazard statement
Oral (Category 4)	H302
Dermal Skin Irritation (category 4)	H316
Skin sensitization (Category 1)	H317
Serious eye damage (Category 1)	H318
Acute toxicity inhalation (Category 3)	H331
Specific Target Organ Toxicity single exposure (Category 2)	H335
Hazardous to the aquatic environment (Acute 1)	H400
Hazardous to the aquatic environment (Chronic 1)	H410

For full text of H statements see section 16

The most important adverse effects

The most important adverse physiochemical effects: None known.

The most important adverse human health effects: Harmful if swallowed (Acute Tox.4). Causes mild skin irritation (Skin irrit. 3). May cause an allergic skin reaction (Skin sens. 1). Causes serious eye damage (Eye Dam. 1). Toxic if inhaled (Acute Tox. 3). May cause genetic defects (Muta 1B). May cause cancer (Carc 1B).

Label elements

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Hazard pictograms:



Warning

Signal Word: DWarning

Hazard Statements:

H302: Harmful if swallowed.

H316: Causes mild skin irritation.

H317: May cause an allergic skin reaction.

H318: Causes serious eye damage.

H331: Toxic if inhaled.

H340: May cause genetic defects.

H350: May cause cancer.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects

Precautionary Statements: P202: Do not handle until all safety precautions have been read and understood.

P261: Avoid breathing mists, vapours or spray. P264: Wash hands and face thoroughly after.

P270: Do not eat, drink or smoke when using this product.

P271: Use outdoors or in a well-ventilated area. P273: Avoid release to the environment.

P280: Wear impervious rubber gloves and boots, protective clothing, and chemical safety goggles. P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.

P308+313: If exposed or concerned: Get medical attention.

P310: Immediately call a POISON CENTRE. P333+P313: If skin irritation or rash occurs: Get medical advice.

P391: Collect spillage.

P405: Store locked up.

P501: Dispose of content/container to suitable landfill in accordance with local regulations.

Special labelling of certain mixtures: None known.

Other hazards: None known.

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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture

Ingredients:

Substance name (IUPAC)	CAS –No.	Concentration % By weight	Classification
	EC-No.		EC1272/2008
Metolachlor	51218-45-2	90%	Skin irritation (Category 2) H315. Skin sensitization (Category 1) H317. Acute toxicity inhalation (Category 4) H332. Carcinogenicity (Category 2) H351. Reproductive toxicity (Category 2) H361 f. STOT RE 2 H373 (kidney). STOT SE 3 H335. Aquatic acute 1 H400 (M=1000). Aquatic chronic 1 H410 (M=100).
Benoxacor	98730-04-2	5%	Skin sensitization (Category 1) (H317) Aquatic chronic 1 (H410)
Calcium dodecylbenzene sulphonate	90194-26-6	1-5%	Acute Tox. 4 (H302)
	290-635-1		Skin irrit. 3 (H316) Eye Dam. 1 (H318)
Solvent Oil A100	78-83-1	1-5%	Flammable liquid (Category 3) H226. Skin irritant (Category 2) H315. Serious eye damage (Category 1) H318.

For full text of H statements see section 16

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8.

SECTION 4. FIRST AID MEASURES

Description of first aid measures:

In case of inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if you feel unwell.

In case of skin contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

In case of eye contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

In case of ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Most important symptoms and effects, both acute and delayed:

Inhalation: Hazardous in case of inhalation product is a lung irritant. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Over-exposure by inhalation may cause respiratory irritation.

Ingestions: May be harmful if swallowed. Toxic if inhaled.

Skin contact: Irritant, may cause an allergic reaction.

Eye contact: Hazardous in case of eye contact (corrosive).

Indication of any immediate medical attention and special treatment needed:

Treat symptomatically.

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SECTION 5. FIRE -FIGHTING MEASURE

Extinguisher media:

Suitable extinguisher media: Carbon dioxide, foam dry chemical and water fog.

SMALL FIRE: Extinguish small fires with carbon dioxide, dry powder, or alcohol-resistant foam.

LARGE FIRE: Water spray can be used for larger fires or cooling of unaffected stock but avoid the accumulation of polluted run-off from the site.

Unsuitable extinguishing media: Do not use high volume water jet, due to contamination risk.

Special hazards arising from the mixture:

During a fire, irritating and possibly toxic gasses may be generated by thermal decomposition or combustion. Closed container may explode if pressure builds up. Toxic or irritating gas may be generated during fire.

Advice for fire-fighters:

Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Be sure to use an NIOSH / MSHA approved /certified respirator or equivalent.

SECTION 6. ACCIDENTAL RELEASE

Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

For emergency responders: Use an approved/certified respirator or equivalent, isolate the spill area and limit the access to emergency responders only. Avoid any contact with spilled material, use adequate protective clothes and gloves.

Environmental precautions:

Cover drains. Prevent from entering soil, ditches, sewers, waterways and/or groundwater.

Methods for containment and cleaning up:

For small spills Contain spilled material if possible. Collect in suitable and properly labelled containers. Absorb with materials such as: sand, earth, vermiculite or diatomaceous earth.

For large spills Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g., sand, earth, vermiculite or diatomaceous earth and place in well labelled container for disposal according to local regulations.

Reference to other sections:

See section 7 for information on safe handling.

See section 8 for information on personal protection equipment.

See section 13 for information on disposal.

Additional information:

None.

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SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:

Use adequate protective equipment to avoid direct contact of product. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not get in eyes or on skin or clothing.

Harmful if swallowed. Toxic if inhaled. Avoid contact with eyes and skin. Ensure adequate ventilation during handling and use. Do not inhale spray mist/fumes or vapours. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use. In the case of contact with the product refer to **First Aid Measures – Section 4**.

Protective measures: Observe directions on label and instructions for use.

Advice on general occupational hygiene: Do not eat drink or smoke when handling this product.

Conditions for safe storage, including incompatibilities:

Store product in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Specific end uses:

Use as directed. Use original container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Occupational exposure limits (OEL): No information available.

Biological exposure indices (BEI): No information available.

Additional exposure limits under the conditions of use: No information available.

Exposure control:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. A Risk Assessment should be conducted before handling is to commence to determine specific exposure control.

Appropriate engineering controls: Provide exhaust ventilation or other engineering controls. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Use safety glasses. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Hand protection: Use chemical resistant gloves. Examples of preferred glove barrier materials include Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, Polyvinyl alcohol, Polyvinyl chloride.

Body protection: Appropriate impervious clothing is required to prevent skin contact with the product.

Respiratory protection: Respiratory protection is required; use an approved air-purifying respirator.

Environmental exposure controls: Prevent product from entry into sewers and water courses.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance (form): Liquid.

Colour: Reddish brown liquid, clear emulsifiable liquid.

Odour: Slight odour.

Odour threshold: No information available.

pH (at concentration): 5.3 (1%)

Melting point/range (°C): No information available.

Boiling point/range (°C): 100 °C / 0.001 mm Hg..

Flash point (°C): > 100 °C (ASTM D93)

Evaporation rate: No information available.

Flammability : Not flammable.

Ignition temperature (°C): No information available.

Upper/lower flammability/explosive limits: No information available.

Vapour pressure (20°C): No information available.

Density: 1.070 g/cm³ at 20 °C.

Relative density (25°C): No information available.

Water solubility (g/l) at 20°C: No information available.

n-Octanol/Water partition coefficient: No information available.

Auto-ignition temperature: No information available.

Decomposition temperature: No information available.

Viscosity, dynamic (mPa s): 4,2 mPa at 25 °C

Physical hazards:

Explosive properties: No information available.

Other information:

Fat solubility (solvent-oil to be specified): No information available.

Bulk density: No information available.

Dissociation constant in water (p Ka): No information available.

Oxidation-reduction potential: No information available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity:

The product is stable under normal conditions.

Chemical stability:

Stable under normal storage conditions for 2 years.

Possibility of hazardous reactions:

Slightly reactive to reactive with reducing agents, alkalis.

Conditions to avoid:

Reducing agents and alkalis.

Incompatible materials:

Reducing agents and alkalis.

Hazardous decomposition products:

No information available.

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SECTION 11. TOXICOLOGICAL INFORMATION

Toxicokinetic, metabolism and distribution:

Non-human toxicological data: No Information available.

Excretion:

Acetochlor:

In animals, extensively metabolised in rats and readily eliminated in the excreta.

Information on toxicological effects:

Acute oral LD₅₀: *Technical: 1060 mg/kg in rats.*

Formulation calculated: > 1315 mg/kg in rats.

Acute dermal LD₅₀: *Technical: > 5050 mg/kg in rats.*

Formulation calculated: > 5000 mg/kg in rats

Acute inhalation LC₅₀: *Technical: > 2,02 mg/ℓ air (4 hours).*

Formulation calculated: 2.415 m/kg ATEmix.

Acute skin irritation: May cause slight to moderate irritation.

May cause an allergic skin reaction.

Acute eye irritation: Causes serious eye damage..

Sensitization: May cause allergic reaction.

However, repeated dermal exposures may create skin sensitization.

Reproductive effects:

Evidence suggests that metolachlor is likely to cause genetic defects.

Teratogenic effects:

Data indicate that teratogenic and developmental effects in humans are unlikely at expected levels of exposure.

Mutagenic effects:

Metolachlor tested negative in two bacterial assays and no mutagenicity effects were noted in a standard mouse test. From this evidence it is unlikely that the compound is mutagenic.

Carcinogenic effects:

May cause cancer.

ADI: 0.1 mg/kg b.w.

SECTION 12. ECOLOGICAL INFORMATION

Degradation:

Metolachlor is moderately persistent in the soil environment. Half-lives of 15 to 70 days in different soils have been observed. Very little metolachlor volatilizes from the soil, and photodegradation will be a significant pathway for loss only in the top few inches. Breakdown is mainly dependent upon microbial activity. Metolachlor is moderately well sorbed by most soils. Soils with higher organic matter and clay content may sorb it better. It is slightly soluble in water. Extensive leaching is reported to occur, especially in soils with low organic content.

Metolachlor is highly persistent in water over a wide range of water acidity. Its half-life is more than 200 days in highly acid waters, and is 97 days in highly basic waters. Metolachlor is also relatively stable in water under natural sunlight. About 6.6 % was degraded by sunlight in 30 days, a slow and minimal rate.

Metolachlor, applied before plants emerge, is absorbed through shoots just above the seed, and may be absorbed from the soil into and through the roots. This chemical acts by inhibiting the production of essential plant components like chlorophylls, enzymes, and other proteins. Metolachlor is a growth inhibitor affecting root and shoot growth after seeds have germinated.

ECOTOXICOLOGY:

Birds: Slightly to practically nontoxic to birds.

LD₅₀: Bobwhite quail & Mallard ducks: > 2150 mg/kg

LC₅₀ 8-day diet: Bobwhite quail & Mallard ducks: > 10 000 mg/kg

Fish: Moderately toxic to fish.

LC₅₀ (96 hours): Bluegill sunfish: 10 mg/ℓ

Rainbow trout: 3.9 mg/ℓ

Carp: 4.9 mg/ℓ

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Daphnia: Moderately toxic to Daphnia.

48-hour LC₅₀: *Daphnia magna*: 25 mg/l

Algae: EC₅₀: *Scenedesmus subspicatus*: 0.1 mg/l

Studies on algae and fish exposed to metolachlor in water indicate that very little is accumulated and that any accumulated material is excreted rapidly when the organisms are placed in clean water

Bees: Not toxic to bees. LD₅₀ (oral & contact): > 110 µg/bee

Earthworms: LC₅₀ (14 days): 140 mg/kg soil.

Benoxacor

In soil, benoxacor is rapidly dissipated via the formation of non-extractable residues (67–79% after 103 d down to 54–57% after 365 d) and is mineralised by microbial activity (up to 48–49% after 365 d). Soil DT50 (20 °C) c. 1–5 d. Mean Koc 218 ml/g (42–340 ml/g), indicating medium mobility. In aquatic systems, benoxacor mainly dissipates via the formation of non-extractable residues in the sediment (64–77%) with a DT50 of 2.4 d.

Bio-accumulative potential: Not determined.

Mobility in soil: medium mobility

Other adverse effects: Not determined.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Consider suitable waste recycling, re-use or recovery options. Dispose of in accordance with municipal, provincial and national regulations. Waste Classification and Management Regulations (GN 634 of 2013). Dispose and or manage in accordance with the requirements contained in R634 Waste Classification & Management Regulations, R635 National Norms & Standards for the Assessment of Waste for Landfill Disposal and R636 National Norms & Standards for Disposal of Waste to Landfill. Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour untreated waste or surplus product into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal. The product may be taken to a registered waste disposal site or incineration plant.

Product/ packaging disposal:

Treat as hazardous waste and dispose of in accordance with municipal, provincial and national regulations.

SECTION 14. TRANSPORT INFORMATION

	Land transport (ADR/RID)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN-Number	2902	2902	29021993
UN Proper shipping name:	PESTICIDE LIQUIDS, N.O.S.	PESTICIDE LIQUIDS, N.O.S.	PESTICIDE LIQUIDS, N.O.S.
Transport hazard class:	6.1	6.1	6.1
Packaging group:	III	III	III
Marine pollutant:	yes	yes	yes
Special precautions for user:	Not required	Not required	Not required
Transport in bulk according to MARPOL 73/78 Annex II and the IBC code	Not required	Not required	Not required

Inland waterways: Not required.

Emergency response information: No information.

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SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation for the mixture:

Relevant information regarding authorization: Occupational Health and Safety Act 1993. Regulation for Hazardous Chemical Agents, 2021. UN Recommendations on the Transport of Dangerous Goods Model Regulations Rev. 21 (2019), Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Rev 9, 2021.

Relevant information regarding restrictions:

EU regulations: Regulation EC 1272/2008 [EU-GHS/CLP].

Other National regulations: National Road Traffic Act, 1996 (ACT NO. 93 of 1996).

SANS 10228:2012- The identification and classification of dangerous goods for transport by road and rail modes.

National Environmental Management: Waste Act 59 of 2008.

Chemical Safety Assessment carried out? No

SECTION 16. OTHER INFORMATION

Indication of changes:

All sections.

Relevant H statements (number and full text):

STOT SE-3 Specific Target Organ Toxicity single exposure (Category 2)

Aquatic acute 1: Hazardous to the aquatic Environment (Acute 1)

Aquatic chronic 1: Hazardous to the aquatic Environment (Chronic 1)

H302 Harmful in contact with skin. H332 Harmful if inhaled. H315 Causes skin irritations. H317 May cause an allergic skin reaction. H318 Causes serious damage to eyes. H335 May cause respiratory irritation. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.

Training instructions: No special training required. Read label of product.

Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Notice to readers:

Employers should use this information only as a supplement to other information gathered by them and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees.

This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.