

Material Safety Data Sheet

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Infosafe No. 3NU2L Issue Date: April 2004 ISSUED by CRPCARE

Product Name: **TRIFLURALIN 480 Selective Herbicide**

Classified as hazardous according to criteria of NOHSC

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product Name TRIFLURALIN 480 Selective Herbicide
Product Code 0812
Product Use A pre-emergence herbicide for the control of annual grasses and certain broadleaf weeds in certain horticultural and agricultural crops as listed in the Directions For Use table.
Company Name Crop Care Australasia Pty Ltd (ABN 53 061 362 347)
Address 77 Tingira Street Pinkenba
Queensland 4008 Australia
Emergency Tel. 1800 033 498
Telephone/Telex Number Tel: (07) 3867 9100 Fax: (07) 3867 9110
Other Names Name Crop Care Trifluralin 480 Selective Herbicide Product Code 0812
Product Type Group D Herbicide
Other Information This MSDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization Liquid
Ingredients

<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
Liquid Hydrocarbon	64742-94-5	499g/L or 557g/L
Trifluralin	1582-09-8	480 g/L
Dispersants	N/A	<10%

Other Information di-n-propylnitrosamine < 0.5ppm

3. HAZARDS IDENTIFICATION

Irritating to eyes.
May cause sensitization by skin contact.
Harmful: may cause lung damage if swallowed.
Other Information Poisons Schedule 5

4. FIRST AID MEASURES

Inhalation Remove affected person to fresh air until recovered.
Apply CPR if there is no breathing and NO pulse.
Ingestion If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 13 11 26 (Aust).
Make every effort to prevent vomit from entering the lungs by careful placement of the patient.
Skin Wash affected areas thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
Eye If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.
First Aid Facilities If poisoning occurs, contact a doctor or Poisons Information Centre on 13 11 26 (Australia).
Advice to Doctor Treat symptomatically.
If vomiting occurs, solvent present may cause pulmonary pneumonitis.

5. FIRE FIGHTING MEASURES

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Extinguishing Media Water fog, foam, carbon dioxide or dry chemical.

Specific Hazards

Hazardous If involved in a fire, it will emit hydrogen fluoride, oxides of nitrogen and

Combustion Products possibly cyanides.

Protective Equipment Breathable air apparatus may have to be worn if material is involved in fires especially in confined spaces.

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite).

Collect spilled material and waste in sealable open-top type containers for disposal.

Personal Protection For appropriate personal protective equipment (PPE), refer Section 8.

Environmental Precautions This product is a herbicide and spills can damage crops, pastures and desirable vegetation.

Prevent from entering drains, waterways or sewers.

7. HANDLING AND STORAGE

Storage Store in the closed, original container in a dry, well ventilated area out of direct sunlight.

Do not store near oxidisers.

Do not store below 5 °C. Extended storage below 5°C can result in the formation of crystals on the bottom of the container. If crystallisation does occur, store the container on its side at room temperature and rock occasionally until crystals re-dissolve.

Ensure any crystals are dissolved before adding to the spray tank.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Limits No exposure standards have been set for this product or the active ingredients.

The manufacturer of the solvent has recommended an occupational exposure limit of 100 mg/m³; 15ppm TWA, as total hydrocarbon.

Respiratory Protection Do not inhale spray mist.

Personal Protective Equipment When opening the container and preparing the spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles.

Sensitive workers should wear protective clothing.

Eng. Controls Handle in well ventilated areas, generally natural ventilation is adequate.

Hygiene Measures After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

After each day's use, wash contaminated clothing and safety equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Bright orange, clear liquid

Odour Solvent odour

Melting Point Some crystallisation occurs between 0 and -7°C

Solubility in Water Disperses in water.

Boiling Point 183-210°C (for solvent)

Specific Gravity 1.116

(H₂O=1)

Vapour Pressure 0.5 kPa @ 38°C for solvent, 13.7 mPa @ 25°C for trifluralin

Vapour Density 4.8 (solvent)

(Air=1)

Volatile Component 51% v/v

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Flash Point 103°C
Flammability Combustible. C1.
Ignition Temperature 443°C (solvent)
Flammable Limits 0.9% (for solvent)
LEL
Flammable Limits 6% (for solvent)
UEL

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.
Do not store below 5°C.
Hazardous Polymerization Hazardous polymerisation is not possible.
Materials to Avoid Prolonged reaction with water can cause slow decomposition and the formation of acid which may attack drums. If a part open drum is to be stored, ensure that no water has been added to the drum.
Hazardous Reaction Violent reactions between this product and oxidising agents are possible.

11. TOXICOLOGICAL INFORMATION

Toxicology Information No harmful effects are expected if the precautions on the label and this MSDS are followed.
Nufarm trifluralin (technical) is manufactured to comply with a maximum limit of 0.5ppm di-n-propyl nitrosamine, generally, the levels are not detectable at a detection limit of 0.2ppm. The final product specification is set in accordance with the current FAO specification of max 0.5ppm di-n-propyl nitrosamine.

Inhalation When applying the product as a spray avoid breathing in spray mists.
High vapour concentrations of the solvent while handling the concentrate are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, can be anaesthetic and may have other central nervous system effects.

Ingestion The concentrate is of low toxicity if swallowed.
However, swallowing of large amounts may cause injury, mainly due to solvent .
If aspirated into the lung, e.g. from vomiting, the presence of the solvent may result in chemical pneumonitis or other lung damage.

Skin Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis.
May cause sensitisation by prolonged skin contact.

Eye The concentrate may cause irritation of the eyes.

Chronic Effects No chronic effects of trifluralin exposure have been documented in the literature over many years of use, other than relatively rare skin sensitisation.

Carcinogenicity Early experiments on animals indicated that trifluralin was a carcinogen. This has since been found to be due to an impurity, di-n-propyl nitrosamine, a known carcinogen, present in crude trifluralin at about 80 - 100 ppm.
Later experimentation with trifluralin on mice and rats given high doses of material containing 1ppm or less of di-n-propyl nitrosamine have not shown any tumour formation. Daily doses for rats were 202-392 mg/Kg/day and for mice 256-664 mg/kg/day. Thus trifluralin itself is considered to be non-carcinogenic.

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Acute Toxicity - Oral LD50 (rat) >10,000 mg/kg for trifluralin
LD50 (mouse) 5,000 mg/kg for trifluralin
In 2 year feeding trials, rats receiving 2,000 mg/kg diet suffered no ill effects.
In 2 year feeding trials, dogs receiving 1,000 mg/kg body weight suffered no ill effects.

Other Information The Australian Acceptable Daily Intake (ADI) for trifluralin for a human is 0.02 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 2.5 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, 'ADI List', TGA, August 2003).

12. ECOLOGICAL INFORMATION

Other Precautions Do not spray in high winds.
Do not contaminate dams, waterways or sewers with this product.

Environ. Protection Marine pollutant.
Spray drift can cause damage.

Persistence / Degradability Trifluralin degrades in soil at a relatively moderate rate, about 85 - 90% of the material is lost in normal soil in 1/2 to 1 year.

Acute Toxicity - Fish The following is data for the active ingredient, trifluralin.
LC50 (96 hr) for young rainbow trout is 0.088 mg/l.
LC50 (96 hr) for young bluegill sunfish is 0.089 mg/l.

Acute Toxicity - Daphnia LC50 (48 hr) for daphnia is 0.245 mg/l.

Acute Toxicity - Other Organisms Birds: Not toxic to birds. LD50 for bobwhite quail is >2,000 mg/kg
Bees: Not toxic to bees. LD50 >100 µg/bee.

13. DISPOSAL CONSIDERATIONS

Container Disposal Do not use this container for any other purpose.
Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations.
drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMuster symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program.
Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for refill or storage. If on-site container disposal is necessary, triple rinse empty container with water, add rinsate to the spray tank. Puncture top, sides and bottom, crush and bury in an approved landfill or bury with at least 500 mm of soil cover away from pasture and crop areas, water supplies and houses.

14. TRANSPORT INFORMATION

It is good practice to separate this product from food, food related materials, animal feedstuffs, seed or fertilisers during transport.

U.N. Number None Allocated
Proper Shipping Name None Allocated
DG Class None Allocated
Hazchem Code None Allocated
Packing Group None Allocated

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Storage and Transport Considered non dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.

UN Number (Sea Transport) 3082

IMO Class/Packing Group Class 9; Packing Group III

IMO Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(contains Trifluralin)

15. REGULATORY INFORMATION

Risk Phrase R36 Irritating to eyes.
R43 May cause sensitization by skin contact.
R65 Harmful: may cause lung damage if swallowed.

Safety Phrase S13 Keep away from food, drink and animal feeding stuffs.
S2 Keep out of reach of children.
S24 Avoid contact with skin.
S37 Wear suitable gloves.
S46 If swallowed, seek medical advice immediately and show this container or label.

Poisons Schedule S5

Hazard Category Harmful, Irritant

Packaging & Labelling CAUTION
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

AICS (Australia) All of the components in this product are listed on the Australian Inventory of Chemical Substances.

16. OTHER INFORMATION

Contact Person/Point Normal Hours: Mr Volker Maier Phone: (03) 9282 1000
After Hours: Shift Supervisor Phone: 1800 033 498

Revisions Highlighted First Issue
...End Of MSDS...