



MATERIAL SAFETY DATA SHEET

Issue Date: 1 April 2012

Issued by: NUFARM MALAYSIA SDN BHD

Product Name:	Butralin 37.4% EC
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1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND COMPANY:

Product Name	Butralin 37.4% EC
Company Name	NUFARM MALAYSIA SDN BHD (207731-P)
Company Address	L2.03 Wisma BU8, No. 11, Lebuh Bandar Utama, Bandar Utama, 47800, Petaling Jaya, Selangor D.E., Malaysia.
Tel/Fax Number	Tel: (+60 3) 7629 7233 Fax: (+60 3) 7629 7229
Email	sales.my@my.nufarm.com
Emergency Contact	National Poison Centre 1800 88 8099 (Normal Hour) (+60 12) 430 9499 (After Hour)
Product Type	Plant Growth Regulator
Product Use	For the control and inhibition of tobacco suckers as specified in the Directions for Use table in the label.

2. HAZARDS IDENTIFICATION:

Emergency Overview:

Appearance and Odour

Yellow-orange liquid with aromatic odour.

Warning Statements

Keep out of reach of children. CAUTION. Harmful if absorbed through skin, swallowed or inhaled. Avoid contact with eyes, skin and clothing.

Potential Health Effects:

Ingestion

Harmful if swallowed. Ingestion of the product in large amounts can result in headache, nausea, lethargy, motor weakness and in-coordination.

If aspirated into the lung, e.g. e.g. from vomiting, the presence of the solvent may result in chemical pneumonitis or other lung damage.

Eye Contact

Irritating to the eye.

Skin Contact

May irritates the skin. Prolonged contact with the skin can cause defatting of the skin and may result in dermatitis.

Inhalation

High vapour concentrations of the solvent while handling the concentrate are irritating to the eyes and respiratory tract. May cause headaches and dizziness, can be anesthetic and may have other central nervous system effects.

Potential Environment

Effects

Harmful to fish and other aquatic organisms.

3. COMPOSITION / INFORMATION ON INGREDIENTS:

Type of Formulation	Emulsifiable Concentrate, (EC)		
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Butralin	33629-47-9	37.4%, w/w
	Inert Ingredients		52.6%, w/w

4. FIRST AID MEASURES:

Ingestion	If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the National Poison Centre. Make every effort to prevent vomit from entering the lungs by careful placement of the patient.
Eye	Hold eyelids open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call National Poison Centre or doctor for treatment advice.



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Skin	Remove contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Wash affected area with soap and water. Call National Poison Centre or doctor for treatment advice.
Inhalation	Remove affected person to fresh air until recovered. If the person is not breathing, call 999 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call National Poison Centre or doctor for further treatment advice.
Note to Doctor	Treat symptomatically. If vomiting occurs, solvent present may cause pulmonary pneumonitis.

5. FIRE FIGHTING MEASURES:

Extinguishing Media	Water fog, foam, sand, carbon dioxide or dry chemical.
Specific Hazard	Flammable liquid. Avoid all ignition sources. Do not smoke.
Special Fire Fighting Procedures	Fire-fighters should wear NIOSH/MHSA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.
Hazardous Combustions Products	If involved in major fires, could evolve oxides of carbon and nitrogen.
Other Information	If exposed to fire, keep container cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES:

Spills and Disposal	Shut off all possible sources of ignition. Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite). Do not absorb with combustible absorbents such as sawdust or paper pulp. Collect spilled material and waste in sealable open-top type containers for disposal. Dispose of at a landfill in accordance with local regulations.
Environmental Precaution	Use earthen bunds or absorbent bunding to prevent spreading of spillage.

7. HANDLING AND STORAGE:

Handling	Do not use product container for any other purpose. Wash out the container and dispose of it in an approved manner. Do not smoke. Eliminate all potential sources of ignition (open flames, pilot lights, furnaces, spark-producing switches and electrical devices) both in and near the area where the concentrate is handled.
Storage	For personal protective equipment (PPE) and hygiene advice, refer Section 8. DO NOT STORE NEAR NAKED FLAMES. Store in the closed, original container in a dry, well ventilated area as cool as possible. Store in an area suitable for flammables. Do not store near oxidizers. Keep container tightly sealed and do not store with seed, fertilizers or foodstuffs. Store out of the reach of children.
Other Information	Always read the label and any attached leaflet before use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION:

Engineering Controls	Handle in well ventilated area, generally natural ventilation is adequate.
Personal Protective Equipment	
Eye/ Face Protection	To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.
Skin Protection	To avoid contact with skin, wear long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves made of any waterproof material. An emergency shower or water supply

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Respiratory Protection	should be readily accessible to the work area. Not normally required. If vapours or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.
General Hygiene Considerations	Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this materials: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Physical State	Liquid
Appearance	Yellow-orange liquid with aromatic odour.
Specific Gravity	0.975
Vapour Pressure	0.77 mPa @ 25°C for butralin
Flash Point	44°C
Partition co-efficient, n-octanol/water	K _{ow} Log P is 4.93 @ 23°C for butralin
Solubility in Water	Disperses in water
Flammability	Flammable liquid

10. STABILITY AND REACTIVITY:

Storage Stability	Stable under normal handling and storage conditions.
Conditions to Avoid	Excessive heat and fire. Sparks, open flames, heat and other ignition sources.
Hazardous Decomposition Products	Hazardous polymerization is not possible.

11. TOXICOLOGICAL INFORMATION:

Toxicology Information	No harmful effects are expected if the precautions on the label and this MSDS are followed.
Chronic effects	No information available.
Acute Toxicity - Oral	The following data for active ingredient, butralin: LD ₅₀ (rat) : 1049 – 1170 mg/kg
Acute Toxicity - Dermal	LD ₅₀ (rabbit) : > 2000 mg/kg
Acute Toxicity - Inhalation	LC ₅₀ (rat) : > 9.53 mg/l
Eye Irritation	Moderate eye irritant (rabbit).
Skin Irritation	Mild skin irritant (rabbit).
Sensitization	Product is not a skin sensitizer (guinea-pig)

12. ECOLOGICAL INFORMATION:

Acute Toxicity - Fish	The following data for active ingredient, butralin: Toxic to fish. LC ₅₀ (96 hr) (rainbow trout) : 0.37 mg/l	
Acute Toxicity - Daphnia	EC ₅₀ (48 hr) (<i>Daphnia magna</i>)	: 0.12 mg/kg
Acute Toxicity - Algae	EC ₅₀ (5 d) (<i>Selenastrum capricornutum</i>)	: 0.12 mg/l
Acute Toxicity - Other Organisms	Not toxic to bird. LD ₅₀ (Bobwhite quail)	: > 2250 mg/kg
Persistence and Degradability	Bee: Not toxic to bees. LD ₅₀ (oral)	: 95 µg/bee
	Half life in soil is typically > 21 days.	



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Other Information Spray drift should be avoided, read the label for more information.

13. DISPOSAL CONSIDERATIONS:

Product Disposal	Ideally the product should be used for its intended purpose. If there's a need to dispose of the product, approach local authorities who hold periodic collection of unwanted chemical. On site disposal of the product is not acceptable.
Container Disposal	Do not use this container for any other purpose. Triple rinse containers, add rinsate to the spray tank, then offer for recycling / reconditioning or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION:

Transport Information	It is a good practice to separate this product from food, food related materials, animal feedstuffs, seed or fertilizers during transport.
Storage and Transport UN Number (Sea Transport)	Follow the precautions indicated in this MSDS, Section 7: HANDLING AND STORAGE. UN 1993
IMO Class/Packing Group	Class 3; Packing Group III
IMO Marine Pollutant	Marine Pollutant
IMO Proper Shipping Name	FLAMMABLE LIQUID, N.O.S.* (contain petroleum distillate)

15. REGULATORY INFORMATION:

Risk Phrase:	R10: Flammable R22: Harmful if swallowed. R36: Irritating to eyes. R63: Possible risk of harm to the unborn child. R65: Harmful: May cause lung damage if swallowed.
Safety Phrase:	S2: Keep out of reach of children. S13: Keep away from food, drink and animal feeding stuffs. S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S37/39: Wear suitable gloves and eye/face protection. S46: If swallowed, seek medical advice immediately and show this container or label.
Hazard Category	Class III (Malaysia Regulation)
Packaging and Labeling	HARMFUL KEEP AWAY FROM FOODSTUFF AND CHILDREN. READ THE LABEL BEFORE USE.

16. OTHER INFORMATION:

Contact Person / Point	Nufarm Malaysia Sdn Bhd Mr. PMG Pitchai Phone: (+60 3) 31761888 Ext 217 Position: Safety & Health Officer DOSH Reg No: JKKP IS 127/438/2/2294 Email: pmg.pitchai@my.nufarm.com
Revisions Highlighted	The MSDS was reviewed. Minor changes were made to the information and now issued in a



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**Date of preparation or
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END OF MSDS ...

Note: While the information given herein is, to the best of our knowledge, correct and is given in good faith, we make no warranty, with respect hereto and disclaim all liability from reliance thereon. It is expected that individuals receiving the information will exercise their independent judgment in determining its appropriateness for a particular purpose.