

MATERIAL SAFETY DATA SHEET

POLADO 240/105 SL HERBICIDE

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT : POLADO 240/105 SL HERBICIDES

COMPANY IDENTIFICATION:

PT. Nufarm Indonesia
Plaza Aminta Suite 802, 8th Floor
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2. COMPOSITION/INFORMATION ON INGREDIENTS:

Ingredients	Cas No	Proportion
Glyphosate Isopropylamine	38641-94-0	21.47 %
2,4D-Amine	5742-17-6	9.40 %
Other ingredients, total, including:		69.13 %

3. HAZARDOUS IDENTIFICATIONS:

- **Eye** The concentrate may cause irritation
- **Skin** May cause irritation
- **Inhaled** May produce slight irritation

4. FIRST AID MEASURES :

Ingestion	If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact Nation Poison Centre.
Eye	If in eyes, hold eyes open, flood with water for at least 15 minutes And see Doctor.
Skin	Remove contaminated clothing and lauder before re-use. Wash exposed parts of the body thoroughly with soap and water. Get medical attention if irritation
Inhalation	Remove to fresh air until recovered.
Advice to Doctor	No specific antidote known. Treat symptomatically and give supportive therapy

5. FIRE FIGHTING MEASURE :

Extinguishing Media	None require but use water spray to cool containers or personnel threatened by fire
Fire/Explosion Hazards	Non-flammable
Hazardous Combustion Product	None known
Protective Equipament	If material is involved in a fire in a confined area, breathable air apparatus may need to be worn

6. ACCIDENTAL RELEASE MEASURES :

Spills and Disposal	Contain spill and absorb with sand or proprietary absorbent (vermiculite). Prevent from entering drains, waterways or sewers. Collect spilled material and waste in sealed open-top type containers For disposal. Final clean up with degreasing agent or detergent is advised.
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Personal Protection Avoid contact with eyes and skin
When preparing product for use wear cotton overalls buttoned to the neck and wrist and washable hat, elbow length PVC glove and effective eye protection. 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. Wash concentrate from skin and eyes immediately
Avoid working in and breathing spray mist

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.
Equipment that has been used for this chemical should not be used for the application of other materials to sensitive plants.

Storage Store in the closed, original container in a dry, well ventilated area out of direct sunlight. Store in a safe away from foodstuffs, seeds or fertilizers. Store out of the reach of children.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Personal Protective Equipment

- **Respiratory** No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation
- **Skin protection** wear suitable protective clothing wear safety boots
- **Hand protection** Wear suitable gloves
- **Eye protection** Chemical goggles or safety glasses

Ventilation Provide ventilation to minimize exposure. Use local mechanical ventilation at sources of air contamination such as open process equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Clear Violet liquid
Specific Gravity 1.118 @ 27 degrees C

Physical State	Liquid
pH	6.0 - 6.5
Odor	Low
Flashpoint	Non flammable
Flammability Limits	Non flammable
Solubility in Water	Completely soluble

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions. Store in a cool, well ventilated Place away from foodstuffs, reducing agent and acids
Hazardous Decomposition	No data
Incompatibility	Spray solution of this product should be mixed, stored or applied Using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel container.
Reactivity	This product is unlikely to react or decompose under normal storage conditions.

11. TOXICOLOGICAL INFORMATION

Inhalation	When applying the product as aspray avoid breathing in spray mists. May cause irritation to mucous membranes and respiratory tract
Eye	The concentrate may cause irritation of the eyes. Prolonged contact with the concentrate may cause damage to the eye.
Skin	May cause reddening of the skin and some irritation if contact is Prolonged.
Reproductive Toxicity	Glyphosate is not considered to be teratogenic or a reproductive toxin. No impairment of reproductive function attributable to 2,4D has been noted in laboratory animal studies

Mutagenicity	Glyphosate is not considered to be mutagenic.
Carcinogenicity	Glyphosate is not considered to be carcinogenic. 2,4D lifetime feeding studies in rats and mice did not show Carcinogenic potential
Acute Toxicity - Oral	The oral LD ₅₀ of 2,4D ranges from 375 to 666 mg/kg in the rat, 370 mg/kg in mice, and from less than 320 to 1000 mg/kg in guinea pigs. Glyphosate, LD ₅₀ (rat) : 4,050 mg/kg
Acute Toxicity - Dermal	Glyphosate, LD ₅₀ (rat) : > 2,000 mg/kg 2,4d acid LD ₅₀ values are 1500 mg/kg in rats and 1400 mg/kg in rabbits
Acute Toxicity - Inhalation	Glyphosate, LD ₅₀ (rat, 4hr) : > 1.3 mg/L LC50 concentration not reached.
Eye Irritation	Glyphosate (rabbit) : Irritation due to surfactant.
Skin Irritation	Glyphosate (rabbit) : Not an irritation.
Skin Sensitisation	Glyphosate (guinea pig) : Not a sensitizer.

12. ECOLOGICAL INFORMATION

Acute Toxicity - Fish	Glyphosate ; LC ₅₀ (bluegill sunfish, 96 hr) : 120 mg/L LC ₅₀ (rainbow trout, 96 hr) : 86 mg/L LC ₅₀ (harlequin, 96 hr) : 168 mg/L LC ₅₀ (zebra fish, 96 hr) : 122.9 mg/L
Acute Toxicity - Daphnia	Glyphosate : Immobilization : EC50 (48 hours) > 100 mg/L
Acute Toxicity - Other organisms	Glyphosate : Not toxic to bees LD50 (bee) : > 100 µg/bee Glyphosate : Not toxic to birds LD50 (bobwhite quail) : > 3850 mg/kg

Persistence/ Degradability	Adsorption studies indicate that glyphosate has very low mobility. Average field half-life of glyphosate is 47 days
Effects on birds	2,4D Acid is harmful to wildfowl and slightly to moderately toxic to birds. The LD50 is 1000 mg/kg in mallards, 272 mg/kg in pheasants, and 668 mg/kg in quail and pigeons
Effects on aquatic Organisms	Some formulation of 2,4D are highly to fish while other are less so. Limited studies indicate a half-life of less than 2 days in fish and oysters. Concentration of 10 mg/L for 85 days did not adversely affect the survival of adult Dungeness crabs. For immature crabs, the 96-hour LC ₅₀ is greater than 10 mg/L, indicating that 2,4D is only slightly toxic. Brown shrimp showed a small increase in mortality at exposures of 2 mg/L for 48 hours.
Effects on other organisms	Moderate doses of 2,4D severely impaired honeybees brood production. At lower levels of exposure, exposed bees lived significantly longer than the controls. The honeybees LD ₅₀ is 0.0115 mg/bee
Other Precaution	DO NOT spray in high winds. DO NOT contaminate dams, tivers or stream with pesticide or Used containers.

13. DISPOSAL CONSIDERATIONS

Product Disposal	Contain spill and absorb with sand or proprietary absorbent (vermiculite). Prevent from entering drains, waterways or sewers. Collect spilled material and waste in sealed open-top type Containers for disposal
Container Disposal	Do not use this container for any other purpose. Contain spill and Absorb with sand or proprietary absorbent (vermiculite). Prevent From entering drains, waterways or sewers. Collect in sealed open Top containers for disposal. 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 500 mm 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.

Returnable Containers Empty containers fully into application equipment. Close all valve and return to point of supply for refill or storage.

14. TRANSPORT INFORMATION

Storage and Transport **Transport :**
Product not classified as a dangerous good for transport by road, rail, sea or air. It is good practice to separate this product from food and animal feedstuffs, seeds or fertilisers during transport

Storage :
Store in the closed, original container in adry well ventilated area out of direct sunlight. Store in a safe place away from foodstuffs, seeds or fertilisers. Store out of the reach of children.

15. REGULATORY INFORMATION

Risk Phrase R36 - Irritating to eyes

Safety Phrase S25 - Avoid contact with eyes
S26 - In case of contact with eyes, rinse immediately with plenty of water and conract a doctor or National Poison Centre
S37/S39 – Wear suitable gloves and eye/face protection

Hazard Category Class III

Packing and labelling Labelling requirements is :
KEEP AWAY FROM FOODSTUFF AND CHILDREN

16. OTHER INFORMATION

R phrases(s) :
R52/53 - Harmful to aquatic organisms, mat cause long-term adverse effects in the aquatic environment

S2 - Keep out of the reach of children

S15 - Keep away from heat