



# MATERIAL SAFETY DATA SHEET

## GLYTRON 310/49 EC HERBICIDE

### 1. PRODUCT AND COMPANY IDENTIFICATION:

**PRODUCT : GLYTRON 310/49 EC HERBICIDES**

**COMPANY IDENTIFICATION:**

PT. Nufarm Indonesia  
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### 2. COMPOSITION/INFORMATION ON INGREDIENTS:

Type of Formulation	Emulsion, oil In water (EW)	
Ingredients	Cas No	Proportion
Triclopyr ((3,5,6-trichloro-2-pyridinyl)oxy) acetic acid, butoxy ethyl ester	38641-94-0	28.0%
Glyphosate Isopropylamine	64700-56-7	4.43%
Other ingredients, total, including:		67.57%

### 3. HAZARDOUS IDENTIFICATIONS:

**Acute – Ingestion** A moderate hazard if accidentally swallowed. The concentrate is considered harmful if swallowed, when classified according to the worksafe criteria. The spray solution is not considered a significant

hazard due to the relatively low toxicity of the diluted product.

**Acute - Eye** The concentrate may cause serious to eyes on prolonged contact.

**Acute - Skin** Prolong or repeated contact with concentrate may lead to secondary dermatitis cause by solvent/surfactant defatting. Skin absorption is a moderate hazard which may lead to chronic Effects aspecially from the solvent.

**Acute - Inhaled** Avoid breathing spray mists and aerosols. In extreme cases the  
**Chronic** solvent present may adversely liver ang kidney.

#### 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. Make every sffort to prevent vomit from entering the Longs be careful placement of the patient.

**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.

**Inhalation** Remove to fresh air until recovered.

**Advice to Doctor** Treat symptomatically.  
The dicision whether to vomiting ot not should be made by an Attending doctor. If lavage is performed, suggest endotracheal and/ or esophageal control

#### 5. FIRE FIGHTING MEASURE :

**Extinguishing** None require but use water spray to cool containers or personnel  
**Media** threatened by fire

**Special Fire** Breathable air apparatus may have to be worn if material is nivolved  
**Figthing Prosedure** in fires especiallyin confined space. Keep upwind.

**Unusual fire and** This product, or spray solution of this product, can react with  
**Explosion Hazard** galvanised steel or unlined steel (except stainless steel) container

and tanks, to procedure Hydrogen gas may form a highly flammable gas mixture

<b>Fire/Explosion Hazards</b>	Non-flammable
<b>Hazardous Combustion Product</b>	If material is involved in a fire, may emit toxic fumes of hydrogen chloride, oxides of phosphorus or phosgene if involved in fires or exposed to extreme heat
<b>Protective Equipment</b>	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.

**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 plant, unless it has

been well washed out with hot soap water or 1% solution ammonia, followed by several clear water rinse. For personal protective equipment (PPE) and hygiene advice, refer section 8.

**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

**Exposure Limits** No exposure limits have been set for this product.  
Avoid contact with eyes and skin

**Personal Protective Equipment** When preparing product for use wear cotton overalls buttoned to the neck and wrist and washable hat, elbow length PVC gloves and effective eye protection.

**Engineering Control Hygiene Measures** When used in the field, no special engineering controls are required. 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** Clear red liquid

**Melting Point** < 0°C

**Boiling Point** > 100°C

**Vapour Pressure** Active ingredient considered non volatile

**Volatile Component** 50%

**Specific Gravity** 1.123

**Flash Point** No data

  

**Flammable Limit** No data

**LEL**

<b>Explosion Data</b>	No data
<b>Autoignition Temperatur</b>	No data
<b>Rel. Vapour Densiyt</b>	> 1
<b>Physical State</b>	Liquid
<b>Other Infommation</b>	Disperse in water

**10. STABILITY AND REACTIVITY**

**Stability** Stable under normal conditions.

**Hazardous  
Polymerisation** No data

**Hazardous Reaction** Avoid contact of the concentrate with strong alkalis, such contact may release isopropylamine vapour with a strong fish like odour, irritant to eye and flammable. Isopropylamine has oral LD<sub>50</sub> (rat) 820 mg/kg and workplace exposure standard is 5 ppm, TWA and 10 ppm STEL. If involved in strong fires can release nitrogen oxides and oxides of phosphorus.

**11. TOXICOLOGICAL INFORMATION**

**Toxicology  
Information** No harmful effects are expected if the precautions on the label and this MSDS are fillowed

**Ingestion** the concentrate is of low toxicity if swallowed. Amounts incidental to normal handling procedure and use are not expected to cause injury. Possible symptoms of exposure include : nausea, vomiting and gastrointerestinal discomfort and diarrhea. Ingestion of a large quantity of the undiluted product may result in hypotension and pulmonary oedema.

<b>Inhalation</b>	When applying the product as aspray avoid breathing in spray mists. May cause irritation to mucous membranes and respiratory tract
<b>Eye</b>	The concentrate may cause irritation of the eyes. Prolonged contact with the concentrate may cause damage to the eye.
<b>Skin</b>	May cause reddening of the skin and some irritation if contact is Prolonged.
<b>Chronic Effects</b>	No information available, no chronic effects expected.
<b>Reproductive Toxicity</b>	Glyphosate is not considered to be teratogenic or a reproductive toxin.
<b>Mutagenicity</b>	Glyphosate is not considered to be mutagenic.
<b>Carcinogenicity</b>	Glyphosate is not considered to be carcinogenic
<b>Acute Toxicity - Oral</b>	Technical Triclopyr, LD <sub>50</sub> (rat) : 713 mg/kg Technical Triclopyr, LD <sub>50</sub> (rabbit) : 550 mg/kg Technical Triclopyr, LD <sub>50</sub> (guinea) : 310 mg/kg Technical Triclopyr, LD <sub>50</sub> (mallard) : 1,698 mg/kg Glyphosate, LD <sub>50</sub> (rat) : 4,050 mg/kg
<b>Acute Precutaneous</b>	Technical triclopyr, LD <sub>50</sub> (rabbit) : > 2,000 mg/kg Glyphosate, LD <sub>50</sub> (rabbit) : > 5,000 mg/kg
<b>Acute Toxicity - Dermal</b>	Glyphosate, LD <sub>50</sub> (rat) : > 2,000 mg/kg
<b>Acute Toxicity - Inhalation</b>	Glyphosate, LD <sub>50</sub> (rat, 4hr) : > 1.3 mg/L LC50 concentration not reached.
<b>Eye Irritation</b>	Glyphosate (rabbit) : Irritation due to surfactant.
<b>Skin Irritation</b>	Glyphosate (rabbit) : Not an irritation.
<b>Skin Sensitisation</b>	Glyphosate (guinea pig) : Not a sensitizer.

**Other Information** The Australian Acceptable Daily Intake (ADI) of triclopyr for a human is 0.005 mg/kg/day : glyphosate for a human is 0.3 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.5 mg/kg/day for triclopyr ; 30 mg/kg/day for glyphosate.

The level determined to show no effects during longterm exposure for the most sensitive indicators and the most sensitive species  
(Ref: Commonwealth of Health and Ageing, 'ADI List', TGA, August 2003).

## 12. ECOLOGICAL INFORMATION

<b>Acute Toxicity - Fish</b>	Technical Triclopyr ; LC <sub>50</sub> (bluegill sunfish, 96 hr) : 148 mg/L LC <sub>50</sub> (rainbow trout, 96 hr) : 117 mg/L Glyphosate ; LC <sub>50</sub> (bluegill sunfish, 96 hr) : 120 mg/L LC <sub>50</sub> (rainbow trout, 96 hr) : 86 mg/L LC <sub>50</sub> (harlequin, 96 hr) : 168 mg/L LC <sub>50</sub> (zebra fish, 96 hr) : 122.9 mg/L
<b>Acute Toxicity - Daphnia</b>	Glyphosate : Immobilization : EC <sub>50</sub> (48 hours) > 100 mg/L
<b>Acute Toxicity - Other organisms</b>	Technical Triclopyr ; Not toxic to bees LD <sub>50</sub> (bee) : 0.060 µg/bee Glyphosate : Not toxic to bees LD <sub>50</sub> (bee) : > 100 µg/bee Glyphosate : Not toxic to birds LD <sub>50</sub> (bobwhite quail) : > 3850 mg/kg
<b>Other Precaution</b>	<b>DO NOT</b> spray in high winds. <b>DO NOT</b> contaminate dams, rivers or stream with pesticide or Used containers.



<b>Environmental Protection</b>	Do not use on or in situations where damage to susceptible crop plants such as cotton, tobacco, tomatoes, flowers, vines, fruit trees or other susceptible crops plants may result from direct application or drift
<b>Persistence/ Degradability</b>	Adsorption studies indicate that gltphosate has very low mobility. Average field half-life of glyphosate is 47 days
<b>Other Information</b>	Moderately toxic to fish and other aquatic species (mainly due to the surfactant). Not toxic to bird or bees

### 13. DISPOSAL CONSIDERATIONS

<b>Product Disposal</b>	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
<b>Container Disposal</b>	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.

### 14. TRANSPORT INFORMATION

<b>UN Number</b>	None Allocated
<b>Proper Shipping Name</b>	None Allocated
<b>DG Class</b>	None Allocated



<b>Hazchem Code</b>	None Allocated
<b>Packing Group</b>	None Allocated
<b>Storage and Transport</b>	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 a dry 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

<b>Risk Phrase</b>	R36 - Irritating to eyes
<b>Safety Phrase</b>	S25 - Avoid contact with eyes S26 - In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or National Poison Centre S37/S39 – Wear suitable gloves and eye/face protection
<b>Poison Schedule</b>	No data
<b>Hazard Category</b>	Class III
<b>Packing and labelling</b>	Labelling requirements are :  HARMFUL KEEP AWAY FROM FOODSTUFF AND CHILDREN

## 16. OTHER INFORMATION

### R phrases(s) :

- R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
- S2 - Keep out of the reach of children
- S15 - Keep away from heat