



# Safety Data Sheet

SDS No.:  
SDS-P/L-N/01

NAFAS Glyphosate

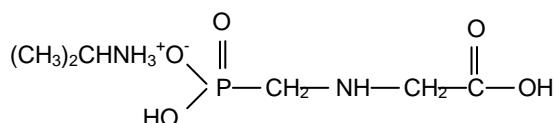
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## Section 1: Identification of the Hazardous Chemical and of the Supplier

### 1.1 Product Identifier

Product Name: Glyphosate isopropylamine salt 41%  
Trade Name: NAFAS Glyphosate  
Active Ingredient: Isopropylamine salt of N-(phosphonomethyl) glycine  
CAS No.(AI): 1071-83-6  
Structural Formula:



Recommended Usage: Herbicide

### 1.2 Supplier's Information

Address: Agricultural Chemicals (M) Sdn. Bhd.  
962, Lorong Perusahaan 8  
Taman Perindustrian Perai  
13600 Perai, Pulau Pinang  
Malaysia  
Tel.: +6-04-3907988  
Fax: +6-04-3905703  
Web: [www.agrichem.com.my](http://www.agrichem.com.my)  
Emergency Phone: +6-04-3907988

## Section 2: Hazard Identification

Classification: Acute Toxicity (Inhalation): category 3  
Skin irritation: Category 2  
Eye irritation: Category 2  
Chronic Hazards to the aquatic environment: Category 3

Pictogram:



Signal Word: Danger

Hazard Statement:

H331: Toxic if inhaled  
H315: Causes skin irritation



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H319: Causes serious eye irritation  
H412: Harmful to aquatic life with long lasting effects

**Precautionary Statement:**

P260: Do not breathe vapours.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P273: Avoid release to the environment.  
P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position 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. Continue rinsing.

### Section 3: Composition and Information of the Ingredients of the Hazardous Chemical

Component	CAS No.	Weight, %	Hazard Code
Glyphosate IPA	1071-83-6	41%	H331, H315, H319, H412
Adjuvant	-	3 % to < 5 %	H315, H319

### Section 4: First-aid Measures

Call a POISON CENTER or doctor/physician if you feel unwell.

**Inhalation:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**Skin Contact:** Wash face and hands thoroughly after handling. Contaminated work clothing shall not be allowed out of the workplace. Remove/ take off immediately all contaminated clothing. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

**Eye Contact:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Ingestion:** IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting. Drink plenty of water or milk. Induce vomiting only if ingested in large amount. Get prompt medical attention.

**Symptoms:** No data available.

**Notes to Physician:** Treatment is symptomatic.



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## Section 5: Fire-fighting Measures

- Suitable Extinguishing Media: CO<sub>2</sub>, foam, dry chemical or water spray. Use water spray to cool containers or personnel threatened by fire.
- Specific Hazard During Fire: No unusual fire and explosion hazards.
- Special Protective Equipment: Fire fighters should wear full-faced self contained breathing apparatus and protective clothing.

## Section 6: Accidental Release Measures

- Personal Precautions: Do not handle until all safety precautions have been read and understood. Wear pesticide respiratory masks, protective gloves, goggles and clothing while handling.
- Environmental Precautions: Avoid release to the environment.
- Method for Cleaning Up: Wear protective clothing as indicated in Section 8. Evacuate non essential personnel. Absorb spills with inert material such as clay, sand, earth, sawdust etc. and collect in a drum. Cover up the contaminated area with household detergent and small amount of water. Brush the slurry and spread inert absorbents on the slurry liquid and collect the absorbed material in a drum. Seal drum and dispose of. Do not contaminate water resources.

## Section 7: Handling and Storage

- Precautions for Safe Handling: Wear protective gloves/protective clothing/eye protection/face protection. Wash face and hands thoroughly after handling. Do not eat, drink, or smoke when using this product. Avoid breathing fume/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Avoid release to the environment.
- Conditions for Safe Storage: Keep in original container, tightly closed, in a cool dry and well-ventilated place, out of reach of children. Keep away from food, drink and animal feeding stuff. Keep container tightly closed. Ground/bond container and receiving equipment. Store locked up.
- Incompatibles: Strong alkaline corrosive to mild steel, galvanized steel and zinc.



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## Section 8: Exposure Control and Personal Protection

### Exposure Limit:

Source	Component	CAS No.	Limit	
ACGIH	Glyphosate Technical	1071-83-6	ACGIH TLV / 8 hr TWA	Total 10 mg/m <sup>3</sup> ; Respirable 5mg/m <sup>3</sup>

(For nuisance dust)

\*These limits are stated only to indicate the least stringent airborne dust exposure levels applicable to nuisance dusts. History of use is not sufficient to designate this material a nuisance dust.

Engineering Control:

Local exhaust ventilation.

Individual Protection Measure:

Avoid inhalation. Always wash hands thoroughly before eating or drinking. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin and eyes.

Personal Protective Equipment:

Eye Protection:

Wear safety goggles.

Skin Protection:

Wear suitable protective clothing, PVC gloves and boots.

Respiratory Protection:

Wear suitable pesticide respiratory masks.

## Section 9: Physical and Chemical Properties

Appearance:

Brownish liquid

Odour:

Characteristic odour

Odour Threshold:

No data available

pH:

4.4 (without dilution)

Melting/Freezing Point:

200°C (technical)

Initial Boiling Point:

No data available

Boiling Range:

No data available

Flash Point:

Not applicable

Evaporation Rate:

No data available

Flammability:

No data available

Upper Flammability Limit:

No data available

Lower Flammability Limit:

No data available

Vapour Pressure:

1.94 x 10<sup>-7</sup> mmHg at 45°C (technical)

Vapour Density:

No data available

Relative Density:

1.15 g/ml (density)

Solubility in Water:

Miscible with water

Partition Coefficient P<sub>o/w</sub>:

No data available

Auto-ignition Temperature:

No data available

Decomposition Temperature:

No data available

Viscosity:

No data available



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## Section 10: Stability and Reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Stable under normal conditions.
Hazardous Reaction:	Hazardous polymerization will not occur.
Condition to Avoid:	Direct sunlight, heat and extreme temperature. The product or spray solution of this product reacts with galvanized steel or unlined steel (except stainless steel) containers and tanks, to produce hydrogen gas which may form a highly combustible gas mixture. Avoid contact of the concentrate with strong alkaline. Such contact may release isopropylamine vapour with a strong odour, irritant to eyes. If involved in fire, can release nitrogen oxides and oxides of phosphorus.
Incompatible Material:	Strong alkaline corrosive to mild steel, galvanized steel and zinc.
Hazardous Decomposition Product:	Hazardous decomposition will not occur.

## Section 11: Toxicological Information

### 11.1 Acute Toxicity

Ingestion, Oral LD <sub>50</sub> :	
Rat (female)	5000 mg/kg
Skin Contact, Dermal LD <sub>50</sub> :	
Rat (male/female)	>2000 mg/kg

### 11.2 Chronic Effect from Short and Long Term Exposure

Skin Contact:	Causes skin irritation
Eye Contact:	Causes eye irritation
Inhalation:	Toxic if inhaled
Ingestion:	No data available
Carcinogenicity:	No data available
Mutagenicity:	No data available
Teratogenicity:	No data available

11.3 Symptoms No data available



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## Section 12: Ecological Information

Ecotoxicity:

Component: Glyphosate IPA

Aquatic Toxicity:		
	Trout & bluegill sunfish, LC <sub>50</sub> , 96 hr	>1000 mg/l
	Fathead minnow, LC <sub>50</sub> , 96 hr	97 mg/l
	Daphnia, EC <sub>50</sub> , 48 hr	930 mg/l

Persistence and Degradability: No data available

Bioaccumulative Potential: No data available

Mobility in Soil: No data available

Other Adverse Effect: No data available

## Section 13: Disposal Information

Dispose of contents/container to Kualiti Alam / authorized body by DOE (pesticides).

## Section 14: Transportation Information

### Land (ADR/RID)


Proper Shipping Name	Pesticide, Liquid, Toxic, N.O.S
Hazard Class	6.1
Hazchem Code	-
UN number	2902
Packing Group	III
Label / Mark	6

### Sea (IMDG)

Proper Shipping Name	Pesticide, Liquid, Toxic, N.O.S
Hazard Class	6.1
UN Number	-
Packing Group	2902
Marine Pollutant	III
Label	6
Transport Document Name	-

### Air (IATA)

Proper Shipping Name	Pesticide, Liquid, Toxic, N.O.S
Hazard Class	6.1
UN number	-
Packing Group	2902

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Label / Mark	III
Transport Document Name	-

### Section 15: Regulatory Information

Classification: Acute Toxicity (Inhalation): category 3  
 Skin irritation: Category 2  
 Eye irritation: Category 2  
 Chronic Hazards to the aquatic environment: Category 3

Signal Word: Danger

Pictogram:



Pesticides Act: Class III  
 Classification Harmful

### Section 16: Other Information

Date of Preparation: 4 December 2015  
 Date of Revision: 23 November 2016  
 Reference Document: ICOP on Chemicals Classification and Hazard Communication 2014  
 GHS Purple Book  
 MSDS: NAFAS Glyphosate, Date prepared: 14-2-2012  
 Toxicological Report on Acute Oral and Acute Dermal Toxicity of  
 Glyphosate IPA 41% in Rats, USM 2011

Disclaimer: To the best of our knowledge, the information contained herein is accurate. However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein.