

**IVORYCHEM PTE LIMITED**

15 Beach Road #02-09, Beach Centre
Singapore 189677
Tel: +65 – 6337 7765
Fax: +65 – 6337 7730
Email: contact@ivorychem.com
Web: www.ivorychem.com
Co. Registration No. 200405572W
GST Registration No. 200405572W

MATERIAL SAFETY DATA SHEET**INSTAKIL 150 SC HERBICIDE**

Version: Global
Date Approved:
Revision No: 1

CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: INSTAKIL 150 SC HERBICIDE
ACTIVE INGREDIENT: GLUFOSINATE AMMONIUM
CHEMICAL FAMILY: NA
CHEMICAL NAME OF ACTIVE INGREDIENT(S): GLUFOSINATE AMMONIUM
MOLECULAR FORMULA:
SYNONYMS:

MANUFACTURER

I IVORYCHEM PTE LTD
15 Beach Road, #02-09
Beach Centre
Singapore 189677
Tel: +65 63377765
Fax: +65 63377730

Emergency Telephone Numbers:

Emergency Phone contact@ivorychem.com (Please refer local label for Emergency Numbers in your region).

COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Wt.%	PEL/TLV	EC No.	EC Class
Glufosinate Ammonium	77182-82-2	15	None	None	None
Other ingredients	-	85	None	None	None

HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

HAZARDOUS SUBSTANCE (see Risk phrases below) – NON DANGEROUS GOOD

Hazard designation: Hazardous (National Occupational Health and Safety Commission - NOHSC)

Risk phrases: R20/21 – Harmful by inhalation and in contact with skin
R36 – Irritating to eyes

Safety phrase: See Sections 4, 5, 6, 7, 8, 10, 12, 13

ADG Classification: Not a “Dangerous good” for transport by road or rail.



IVORYCHEM PTE LIMITED

15 Beach Road #02-09, Beach Centre
Singapore 189677
Tel: +65 – 6337 7765
Fax: +65 – 6337 7730
Email: contact@ivorychem.com
Web: www.ivorychem.com
Co. Registration No. 200405572W
GST Registration No. 200405572W

SUSDP Classification: Schedule 5 (Standard for the Uniform Scheduling for Drugs and Poisons)

FIRST AID MEASURES

IF POISONING OCCURS, IMMEDIATELY CONTACT A DOCTOR OR POISONS INFORMATION CENTER AND FOLLOW THE ADVICE GIVEN.

Inhalation: If inhaled, remove to fresh air, keep warm and at rest. Seek medical advice if inhaled in large quantities.

Skin Contact: Carefully remove contaminated clothing and footwear. Wash affected areas with soap and water. Seek medical aid if all worried.

Eye Contact: Rinse eyes immediately with clean water for at least 15 minutes and obtain medical aid.

Ingestion: Wash out mouth with water. Do not induce vomiting. Seek immediate medical advice.

First Aid Facilities: Provide eyewash and safety shower facilities in the workplace.

Medical Attention: Glufosinate-ammonium is a glutamine synthetase inhibitor and can interfere with neurotransmitter function.

Symptoms

Local – irritation of eyes, skin, respiratory tract

Systemic – shivering, cramps, gastrointestinal complaints, hyperthermia, dyspnoea, bradycardia/tachycardia, convulsions, respiratory depression, amnesia, drowsiness and/ or loss of consciousness. These symptoms may be delayed from a few hours to up to 48 hours after exposure. Therefore, regardless of the amount ingested, the patient must be admitted to hospital for at least 36 hours and treated immediately as outline below.

Treatment

Emergency measures: Symptomatic treatment and administration of antidotes, decontamination. If ingested, endotracheal intubation and gastric lavage should be performed as soon as possible, followed by administration of charcoal and sodium Sulphate solution.

Anticonvulsant therapy: Phenobarbital-sodium, 1mg/kg intramuscularly or subcutaneously until maximum 5 mg/kg daily; when necessary, 10 mg diazepam slowly intravenously. Repeat as necessary until full sedated. Elimination by dialysis(forced alkaline diuresis) and/ or haemoperfusion. It is essential that this be done soon after ingestion to be effective.

ECG(EKG) – control (electrocardiogram)

EEG – control (electroencephalogram)

Apply artificial respiration as necessary. If necessary give oxygen. Monitor respiratory, cardiac, central nervous system, electrolyte balance (especially for hypokalemia) and signs of increased intracranial pressure. If a large amount has been ingested, keep under medical supervision for at least 48 hours.

Contraindication: Atropine, as Glufosinate ammonium does not inhibit cholinesterase.

Recovery is normally spontaneous, usually within 48 hours.

FIRE FIGHTING MEASURES

Extinguishing Media: water fog, fine water spray, foam, dry chemical, carbon dioxide

Hazards from combustion products: in a fire, irritant and toxic fumes containing oxides of carbon and nitrogen, hydrogen chloride, sulphur dioxide and other toxic substances may be generated.

Precautions for fire fighters: fire fighter should wear full protective gear, including self-contained breathing apparatus. Keep unnecessary people away. If it can be done safely, remove intact containers from the fire. Otherwise, use water spray to cool them. Bund area with sand or



IVORYCHEM PTE LIMITED

15 Beach Road #02-09, Beach Centre

Singapore 189677

Tel: +65 – 6337 7765

Fax: +65 – 6337 7730

Email: contact@ivorychem.com

Web: www.ivorychem.com

Co. Registration No. 200405572W

GST Registration No. 200405572W

earth to prevent contamination of drains or waterways. Dispose of fire control water or other extinguishing agent and spillage safely later.

ACCIDENTAL RELEASE MEASURES

Avoid contact with the spilled material or contaminated surfaces. Extinguish or remove any sources of ignition. When dealing with spills, do not eat, drink or smoke and wear protective clothing and equipment as described in Section 8 – PERSONAL PROTECTION. Keep people and animals away. Prevent spilled material from entering drains or watercourses. Contain spill and absorb with earth, sand, clay, or other absorbent material. Collect and store in properly labelled, sealed drums for safe disposal. Decontaminate the area and equipment with bleach or hydrated lime. Deal with all spillages immediately. If contamination of drains, streams, water courses, etc. is unavoidable, warn the local water authority.

HANDLING AND STORAGE

Handling: keep out of reach of children. Harmful if absorbed by skin contact or if swallowed. Will irritate the eyes and skin. Avoid contact with eyes and skin. Avoid breathing vapour or spray. If product in eyes, wash it out immediately with water. If product on skin, immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

Storage: store in the closed, original container in a cool, dry, well-ventilated area. Do not store for prolonged periods in direct sunlight. Keep away from all ignition sources. Keep the container tightly closed, and protect from moisture. Do not store in steel or aluminum containers. The product should be stored between 5°C and 30 °C.

Flammability: Not flammable under condition of use. Not classified as a combustible liquid, as the boiling point (96 °C) is less than the fire point (> 96 °C). The product does not sustain combustion.

EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards: NOHSC Exposure Standards:

Propylene glycol monomethyl ether

TLV-TWA 100 ppm, 369 mg/m³

TLV-STEL 150 ppm, 553 mg/m³

Recommends an exposure standard of 0.6 mg/m³ for Glufosinate ammonium, with a skin notation.

Exposure standard – Time Weighted Average (TWA) means the average airborne concentration for a particular substance when calculated over a normal eight-hour working day, for a five day working week.

Exposure standard – Short term exposure limit (STEL) means a 15 minute TWA exposure which should not be exceeded at any time during the working day.

Skin notation – absorption through skin may be a significant source of exposure.

Engineering controls: control process conditions to avoid contact. Use only in well-ventilated areas. If necessary, use local exhaust ventilation to keep airborne concentration below exposure limits.

Personal protective equipment:

Wear face shield or goggles

Wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and washable hat.

Company Registration No: 200405572W

Incorporated in the Republic of Singapore Under the Companies Act (Cap 50)



IVORYCHEM PTE LIMITED

15 Beach Road #02-09, Beach Centre
Singapore 189677
Tel: +65 – 6337 7765
Fax: +65 – 6337 7730
Email: contact@ivorychem.com
Web: www.ivorychem.com
Co. Registration No. 200405572W
GST Registration No. 200405572W

Wear elbow length PVC or nitrile gloves.
If working in a poorly ventilated area or if occupational exposure levels are likely to be exceeded, wear a respirator suitable for organic vapours.
After each day's use, wash gloves, goggles or face shield, respirator if worn and contaminated clothing.

PHYSICAL AND CHEMICAL PROPERTIES

Physical Properties:

Appearance: Blue to bluish-green liquid
Odor: Slightly pungent odour
pH : 4.6 to 6.6 (1% aqueous solution)
Vapour pressure: Low
Vapour density: No data
Boiling point: 96°C
Freezing/ melting point: Not available
Solubility: Soluble in water
Specific gravity: 1.11 at 20°C
Flash point: 65 °C (Pensky Martens Closed Cup)
Flammability (explosive) limits: No data
Fire Point: > 96 °C

STABILITY AND REACTIVITY

Chemical stability – stable under normal conditions of use

Hazardous polymerization – will not polymerise

Conditions to avoid – avoid sources of ignition and extreme heat.

Incompatible materials – avoid contact with strong oxidizing agents, acids or bases. Ammonia may be evolved in the presence of alkalis.

Hazardous decomposition products – ammonia. In a fire, oxides of carbon, nitrogen, phosphorus and sulphur may be emitted.

TOXICOLOGICAL INFORMATION

Potential Health effects

Inhalation: harmful if inhaled.

Skin contact: harmful if absorbed by skin contact. Will irritate the skin.

Eye contact: will irritate **Ingestion:** harmful if swallowed. Symptoms of poisoning may include: shivering, cramps, stomach complaints, overheating, breathing difficulty, heart problems, convulsions, respiratory depression, loss of memory, drowsiness and/or loss of consciousness. These symptoms may be delayed from a few hours up to 48 hours after ingestion.

Animal Toxicity Data – Product

Acute:

Oral toxicity: LD₅₀ rat: 2030mg/kg (product)

Dermal toxicity: LD₅₀ rat: 1390mg/kg (product)

Inhalation toxicity: LD₅₀ rat: 3.73mg/L (4 Hr) (product)

Skin irritation: slightly irritating (rabbit) (product)

Eye irritation: slightly to moderately irritating (rabbit) (product)

Sensitization: non-sensitizing (guinea pig) (product)

Chronic:



IVORYCHEM PTE LIMITED

15 Beach Road #02-09, Beach Centre
Singapore 189677
Tel: +65 – 6337 7765
Fax: +65 – 6337 7730
Email: contact@ivorychem.com
Web: www.ivorychem.com
Co. Registration No. 200405572W
GST Registration No. 200405572W

In animal studies Glufosinate ammonium showed no reproductive, teratogenic, carcinogenic, mutagenic or neurotoxic effects.

ECOLOGICAL INFORMATION

Glufosinate ammonium is practically non-toxic to birds, fish, honeybees, earthworms and beneficial insects. It is practically non toxic to Daphnia, but moderately toxic to sensitive aquatic species. It is expected to be slightly to moderately toxic to wild animals. Do not contaminate streams, rivers or waterways with INSTAKIL 150 SC or the used containers.

Ecotoxicity

Glufosinate ammonium:

Fish toxicity: LC₅₀ (96h) rainbow trout 710 mg/L
LC₅₀ (96h) carp, bluegill sunfish, golden orfe > 1000 mg/L
Bird toxicity: Eight day dietary LC₅₀ Japanese quail > 5000mg/kg
Daphnia toxicity: Daphnia magna EC₅₀ (48h) 560 – 1000mg/L
Algal toxicity: LD₅₀ for Scenedesmus subspicatus ≥ 1000mg/L
LD₅₀ for Scenedesmus Capricornutum ≥ 37mg/L

Environmental fate, persistence and degradability

Aquatic, air or soil environmental hazards:

Glufosinate ammonium is very soluble in water and is hydrolytically and photolytically stable. It is rapid degraded in surface levels of soils and in water. This product is considered to be readily biodegradable. The potential for groundwater contamination with Glufosinate ammonium is minimal. Do not allow product to enter wastewater, rives or creeks. Glufosinate ammonium does not accumulate in the fatty tissues of fish or other animals.

DISPOSAL CONSIDERATIONS

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemical on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500mm in a disposal put specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt. Dispose of waste product through a reputable waste contractor.

TRANSPORT INFORMATION

UN number: not applicable
Proper shipping name: not applicable
Class and subsidiary risk: not applicable
Packing group: not applicable
EPG: not applicable
Hazchem code: not applicable
Marine pollutant: no



IVORYCHEM PTE LIMITED

15 Beach Road #02-09, Beach Centre

Singapore 189677

Tel: +65 – 6337 7765

Fax: +65 – 6337 7730

Email: contact@ivorychem.com

Web: www.ivorychem.com

Co. Registration No. 200405572W

GST Registration No. 200405572W

REGULATORY INFORMATION

NA

OTHER INFORMATION

Section(s) Revised : New Format