

MATERIAL SAFETY DATA SHEET

Section 1 - Identification of Chemical Product and Company

Company: Spectra Chemicals and Commodities (Shanghai) Co.,Ltd.

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Product Name: Glyphosate 480

Product Use: Water soluble herbicide for non selective control of many annual and perenial weeds in certain situations.

Creation Date: 25th, July 2004

Revision Date: 24th, July 2008

Section 2 - Hazards Identification

Hazard classification: Non-hazardous substance. Non-dangerous goods.

Risk phrases: R22 Harmful if swallowed.

Safety phrases: S20/21 When using do not eat or drink/smoke

S24/25 Avoid contact with skin/eyes

S29/35 Do not empty into drains/Dispose of material and container in a safe way

SUSDP Classification: S5

ADG Classification: Not a dangerous good

UN Number: None allocated

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Proportion
Glyphosate (present as the isopropylamine salt)	1071-83-6	360 g/l
Surfactant		>120 g/l
Water		Balance

Section 4 - First Aid Measures

Inhalation Remove affected person to fresh air until recovered.

Ingestion If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label. Make every effort to prevent vomit from entering the lungs by careful placement of the patient. Do not give anything by mouth to a semi-conscious or unconscious person. Give a glass of water.

Skin Wash affected areas thoroughly with soap and water. If irritation persists, seek medical advice.

Eye If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes. Seek medical advice.

First Aid Facilities If poisoning occurs, contact a doctor or Poisons Information Centre.

Advice to Doctor Treat symptomatically.

Section 5 - Fire Fighting Measures

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Extinguishing Media If involved in a fire, the product will not burn. Choose extinguishing media to suit the burning material. Water, foam, carbon dioxide or dry chemical.

Hazardous Keep upwind.

Combustion Products This product, or spray solutions of this product, react with galvanised steel or unlined steel (except stainless steel) containers and tanks, to produce hydrogen gas which may form a highly flammable or explosive gas mixture. If involved in a major fire, could evolve oxides of nitrogen or phosphorus.

Protective Equipment Breathable air apparatus may have to be worn if material is involved in fires especially in confined spaces.

Section 6 - Accidental Release Measures

Spills & Disposal Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite). Collect in sealed open top containers for disposal. Final clean-up with degreasing agent or detergent is advised.

Environmental Precautions Prevent from entering drains, waterways or sewers.

Section 7 - Handling and Storage

Handling 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. Keep container tightly sealed and do not store with seed, fertilisers or foodstuffs.

Section 8 - Exposure Controls and Personal Protection

Exposure Limits No exposure standard has been established for this product.

Personal Protective Equipment When preparing product for use wear elbow-length PVC gloves and face shield or goggles. When using controlled droplet applicator, wear protective waterproof clothing and impervious footwear.

Eng. Controls No special ventilation required.

Hygiene Measures After each day's use, wash contaminated clothing and safety equipment. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

Section 9 - Physical and Chemical Properties

Appearance	Blue viscous liquid
Odour	None
Melting Point	-10°C
Solubility in Water	Soluble in water.
Boiling Point	>100°C (water only)
Specific Gravity (H₂O=1)	1.17
Vapour Pressure	Active ingredient is considered not volatile
Vapour Density (Air=1)	Water only

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Volatile Component	~50% (water only)
Flash Point	None
Flammability	Non combustible material.

Ignition Temperature N/A

Flammable Limits N/A

LEL Explosion Properties N/A

Section 10 - Stability and Reactivity

Chemical stability: Stable over a wide range of environmental conditions.

Conditions to avoid: Keep away from direct sunlight and high/low temperatures.

Materials to avoid: Do not store in or with galvanised, aluminium, or plain steel containers.

Hazardous reactions: None known.

Section 11 - Toxicological Information

Toxicology Information No harmful effects are expected if the precautions on the label and this MSDS are followed.

Inhalation When applying the product as a spray avoid breathing in spray mists. May cause irritation to mucous membranes and respiratory tract.

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

Skin The concentrated product may cause slight irritation on contact. Prolonged contact is likely to result in irritation.

Eye The concentrate may cause irritation of the eyes. Prolonged contact with the concentrate may cause damage to the eye.

Chronic Effects No information available, no chronic effects expected.

Acute Toxicity - Oral LD50 (rat) >5000 mg/kg for a similar product

Acute Toxicity - Dermal LD50 (rabbit) >5000 mg/kg for a similar product

Acute Toxicity -LC50 (rat) (4hr) >1.3 mg/l

Inhalation LC50 concentration not reached.

Eye Irritation Slight irritant

Skin Irritation Slight irritant.

Other Information The Australian Acceptable Daily Intake (ADI) for 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 30 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, 'ADI List', TGA, August 2003).

Section 12 - Ecological Information

Other Precautions Do not spray in high winds. Do not contaminate dams, waterways or sewers with this product.

Environ. Protection Glyphosate is a non-selective contact herbicide. Spray drift can cause

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damage.

Persistence / Degradability Adsorption studies indicate that glyphosate has very low mobility. Average field half life of glyphosate is 47 days.

Acute Toxicity - Fish Not toxic to fish. LC50 (96 hr) for rainbow trout is >989 mg/l. LC50 (96 hr) for carp is >895 mg/l. The above data is for the formulated product.

Acute Toxicity – Other Organisms Birds: Not toxic to birds. LD50 for mallard ducks and bobwhite quail (diet) is >5620 mg/kg Bees: Not toxic to bees. LD50 >100 µg/bee.

Section 13 - Disposal Considerations

Product Disposal On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemCollect).

Container Disposal Do not use this container for any other purpose. Triple rinse containers, add rinsate to the spray tank, then offer the container 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. drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMuster symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program. Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for refill or storage. Empty containers and product should not be burnt.

Section 14 - Transport Information

It is good practice to separate this product from food, food related materials, animal feedstuffs, seed or fertilisers during transport.

U.N. Number	None Allocated
Proper Shipping Name	None Allocated
DG Class	None Allocated
Hazchem Code	None Allocated
Packing Group	None Allocated

Storage and Transport Considered non dangerous for transport for the Transport of Dangerous Goods by Road and Rail.

Section 15 - Regulatory Information

Poisons Schedule S5

Packaging & Labelling CAUTION
KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS
BEFORE OPENING OR USING

Section 16 - Other Information

This MSDS summarises our best knowledge of the health and safety hazard information of the

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product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

END OF MSDS

Spectra AG