MATERIAL SAFETY DATA SHEET

MAKHRO MCPA

1. Identification of the Substance

Product Name:	MAKHRO MCPA
Common Name:	MCPA
Trade Name:	MAKHRO MCPA
Chemical Name:	(4-chloro-2 – methylphenoxy)acetic acid (IUPAC)
Chemical Family:	Phenoxyacetate herbicide
Manufacturer:	**AGAN CHEMICAL MANUFACTURERS** Northern Industrial Zone, P.O.Box 262, Ashdod, Israel.

EMERGENCY TELEPHONE NUMBER: +972-8-8515211

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2. Composition / Information on Ingredients

Active Ingredient	MCPA phenoxy compound as potassium salt
Symbols	X_n, X_i
R-Phases	R22, R51, R 36/37/38

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3. Hazards Identification

Toxicity class:	WHO III; EPA III
Likely routes of Exposure:	Eye contact, skin contact, ingestion, and inhalation
Eye contact:	May cause severe irritation with cornea injury
Skin contact:	Prolonged or repeated skin contact may cause skin irritation

Inhalation:	May be hazardous
Ingestion	May cause gastrointestinal irritation

4. First Aid Measures and Precautions

First-aid Measures: Remove victim from area of exposure. Wash of remaining material with plenty of water.

Inhalation: Remove victim to fresh air. If breathing is difficult: artificial respiration. Treat symptomatically and supportively. Single exposure to vapors is not likely to be hazardous.

Ingestion: Unlikely to occur under occupational conditions. In case of deliberate ingestion, have victim rinse mouth thoroughly with water. Do not induce vomiting. Give victim plenty of water to drink. Seek medical advice immediately.

Skin Contact: If irritation occurs, remove contaminated clothing. Wash remainder with water and soap. If irritation persists, seek medical attention

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Be sure to flush under eyelids. Get medical attention

Diagnosis of poisoning: Weakness, fall of blood pressure. Ingestion of near the lethal dose causes burning sensations in the tongue, pharynx, and abdomen; flushing of the skin; vomiting; diarrhea; painful and tender muscles with fibrillary twitching; fever or subnormal temperature; lethargy; weakness; and intercostals paralysis. Convulsions and cardiac rhythm disturbances may occur. Death occurs due to kidney, liver , or respiratory failure (lung edema). After acute poisoning, survival of more than 48 hours is usually followed by a complete recovery.

Notes to physician: There is no specific antidote. Treat symptomatically. If substantial amounts have been ingested, spontaneous emesis may occur. Limit gastrointestinal absorption by gastric intubation aspiration and lavage., following placement of a cuffed endotracheal tube. Repeated administration of charcoal at half or more the original dose every 2 to 4 hours may be beneficial.

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5. Fire Fighting Measures

Fire and explosion hazard

The material does not burn or burns with difficulty. It is not explosive. Should the chemical be involved in a general fire ensure chemical protective clothing are used. See point 6

Extinguishing Media

Suitable: Dry Chemical, water, foam, carbon dioxide

Protection of fire-fighters: Self-contained breathing apparatus and total protection required in enclosed areas. Equipment should be decontaminated after use.

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6. Accidental release measures

Personal precautions: Wear suitable protective clothing. i.e. wear neoprene gloves, cotton overalls and safety goggles.

Environmental precautions: Do not discharge in to drains or the environment

Methods of cleaning up: Keep spectators away. Isolate hazard area and deny entry. Stay upwind, out of low lying areas, and ventilate closed spaces before entering. Absorb spilled liquid with Bentonite, attapulgite, sand or other inert material. Dispose of in an authorized waste collection point

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7. Handling and storage

Handling: Avoid contact with eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling.

Storage: Keep only in the original container. Keep in a cool, well ventilated area, away from direct sunlight. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Keep away from children or animals. Local regulations should be complied with.

Packing: High density, polyethylene extrusion blow containers.

8. Exposure control/Personal protection

Engineering measures:	Ventilation required
Hygiene measures:	When handling do, not eat, drink or smoke. Wash hands thoroughly after handling. Wash clothing separately before re-use
Personal protection equip:	in case of insufficient ventilation, wear adequate respiratory protection, gloves of synthetic material, safety goggles, wear suitable protective clothing, e.g. cotton overalls.

9. Physical and Chemical Properties

Physical state:	Liquid
Colour:	light to dark brown
Odour:	Hydrocarbon odour
Flash point:	200°C
Boiling point:	not known
Density:	1,18 g/ml
Solubility in water:	Freely soluble
pH:	10 - 12
Flammability:	Non Flammable
Explosive Properties:	Non Explosive
Oxidation Properties:	Non oxidizing

10. Stability and reactivity

Stability:	Not known
Materials to avoid:	Not known
Hazardous decomposition Products:	-
Hazardous Polymerization	Not known
Incompatibility:	Keep away from acids and bases since knowledge on stability is limited.
Dilution stability:	Stable in aqueous solutions

11. Toxicological Information

MCPA

Acute Oral LD_{50}:	LD_{50} = 1750 mg/kg
Acute Dermal LD_{50}:	LD_{50} > 2500 mg/kg
Skin irritation:	Slightly irritating.
Eye irritation:	Moderate irritating

Carcinogenicity, Teratogenicity, Mutagenicity:
The internal agency for research on Cancer lists phenoxyacetic acids herbicides as a class 2B carcinogen, limited evidence in humans. EPA classifies these herbicides as a class D. Results of tests on this product in animals have been inconclusive.

12. Ecological Information

Degradability
In spoil MCPA degraded to 4-chloro-2-methylphenol, followed by ring hydroxylation and ring opening. The half life in soil is approximately 7 days after initial "lag phase". After application rate of 3kg/ha of MCPA, the residual activity in soil is about 3 to 4 months.

Ecotoxicology

Oral LD50 - Bobwhite quail:	377mg/kg
LC50 *Daphnia magna*:	> 100 mg/l
LC50 (96 hour) rainbow trout:	232mg/l
LD50 Bees	0.104 mg/bee

13. Disposal considerations

Methods of disposal:	Dispose of in a pesticide approved landfill or in a chemical incinerator equipped with scrubbers, in accordance with national and regional regulations

14. Transport Information

UN number:	3000
ADR/IRD:	6.1
IMDG/IMO:	6.1
ICAO/IATA:	6.1
PACKING GROUP:	III
ROAD/RAIL:	Phenoxy pesticide, liquid, toxic (MCPA)
AIR/IATA:	609, 611.(IATA), Phenoxy pesticide, liquid, toxic.(MCPA)
SEA:	Phenoxy pesticide, liquid, toxic.(MCPA)

Considered a marine pollutant

15. Regulatory Information

Symbol:	**X_n, X_i**
Indication of danger:	**Harmful**
Risk phases:	
R22	**Harmful if swallowed.**
R36/37/38	**Irritating to eyes / respiratory system / skin**

R51	**Toxic to aquatic organisms.**
Safety phases:	
S2	**Keep out of reach of children**
S13	**Keep away from food, drink, and animal feedstuffs**
S20/21	**When using do not eat, drink or smoke**
S23	**Do not breathe vapor or spray**
S36	**Wear suitable protective clothing**
S37	**Wear suitable gloves**
S45	**In case of accident or if you feel unwell, seek medical advice immediately.**

16. Other Information

All the information and instructions provided in this Material Safety Data Sheet are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. No responsibility will be accepted for errors or omissions or the consequence thereof. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons in receipt of this MSDS to ensure that all people who may use, handle, dispose or in any way come into contact with the product understands this information.