

SAFETY DATA SHEET

Product Name: MPower 2, 4-D Ester 700 Herbicide

Issue Date: Jan 30 2018

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name:	MPower 2, 4-D Ester 700 Herbicide
Chemical Type:	Herbicide
Restrictions on use:	See product label for restrictions
Pest Control Products (PCP) Act Registration No.: 30460	
Supplier information:	
AgraCity Crop and Nutrition Ltd	Tel: 1-844-269-3276
320-22 nd Street East, Saskatoon, Saskatchewan Canada S7K0H1	
Emergency Phone: Call CHEMTREC 1-800-424-9300 / +1 703-527-3887	

2. HAZARDS IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015)

Environmental Hazards:

Hazardous to aquatic environment, acute

Health: Acute toxicity:

Oral (**category 4**) – harmful if swallowed.

Inhalation (**category 4**) – harmful if inhaled.

Skin irritation (**category 3**) – causes mild skin irritation.

Serious eye damage / eye irritation (**category 2b**) – causes eye irritation.

GHS Label: No pictogram required

Signal word: **WARNING**

PHYSICAL PROPERTIES:

APPEARANCE: Amber brown liquid

ODOR: Slight petroleum smell (Solvent)

PRECAUTIONARY STATEMENTS

General:

If medical advice is needed, have product container or label at hand.

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Keep out of reach of children.

Read label before use.

Avoid breathing fumes, mist, vapors, or spray.

Wash hands, face, and other affected areas thoroughly after handling.

Do not eat, drink, or smoke when using this product.

Use only outdoors or in a well ventilated area.

Wear protective gloves / protective clothing / eye protection / face protection.

Avoid release to the environment.

Response:

IF SWALLOWED: Immediately call a POISON CENTER/doctor/ physician. **Do NOT** induce vomiting.

IF EXPOSED OR CONCERNED: Get medical advice / attention.

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.

IN CASE OF FIRE: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Store locked up. Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local regulation.

PHYSICAL OR CHEMICAL HAZARDS COMBUSTIBLE. Do not use or store near heat or open flame.

3. COMPOSITION INFORMATION

Component Name	CAS-No.	Concentration % by Weight
2,4-D 2-ethylhexyl ester	1928-43-4	89-94
Distillate petroleum, hydro treated light	64742-47-8	3-4
Other ingredients (including water) determined not to be hazardous	N/A	Balance

4. FIRST AID MEASURES

FIRST AID:

IF SWALLOWED: Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

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IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

Take the container label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION: This product contains petroleum distillates. Treatment should be based on judgment of the physician in response to reactions of the patient. Vomiting may cause aspiration pneumonia.

5. FIRE FIGHTING MEASURES

FLASHPOINT: > 100°C

EXTINGUISHING MEDIA: For small fire: dry chemical powder, water spray carbon dioxide. For large fire: foam, water fog, water spray.

SPECIAL EXPOSURE HAZARDS: Flashback may occur along vapor trail.

FIRE AND EXPLOSION HAZARDS: Dangerous gases are evolved in the event of a fire.

FIRE FIGHTING PROCEDURES: Fight fire from a safe distance and protected location. Fight fire upwind to avoid hazardous vapors and decomposing products. Heat may build pressure and rupture closed containers, spreading fire and increasing the risk of injury. Empty containers may contain residue product and can be dangerous. Use water spray/fog for cooling containers and firefighters. Notify proper authorities if liquid material enters the sewer or public waters.

FIRE FIGHTING EQUIPMENT: As with any fire, wear self-contained breathing apparatus pressure demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people, and respond with trained personnel.

PERSONAL PROTECTIVE EQUIPMENT: The proper personal protective equipment for incidental releases (such as 1 liter of product released in a well ventilated area), use impermeable gloves, goggles, face shield, and appropriate body protection. In the event of a large release, use impermeable gloves,

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chemically resistant suit and boots, and hard hat. Self-Contained Breathing Apparatus or respirator may be required where engineering controls are not adequate or conditions for potential exposure exist. When respirators are required, select NIOSH/MSHA approved based on actual or potential airborne concentrations in accordance with the latest OSHA and/or ANSI recommendations.

ENVIRONMENTAL PRECAUTIONS: Stop spill at source. Construct temporary dikes of dirt, sand, or appropriate readily available material to prevent spreading of material. Close cap or valves and/or block or plug hole in leaking container and transfer to another container. Keep from entering storm sewers and ditches which lead to waterways, and if necessary, call the local fire or police department for immediate assistance.

CONTAINMENT AND CLEANUP: Absorb spilled liquid with polypads or other absorbent materials. Clean up with non-combustible absorbent (such as sand, soil, and so on). Shovel up and place all spill residue in suitable containers. Dispose of at an appropriate waste disposal facility according to current applicable laws and regulations and product characteristics at time of disposal.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Advice on safe handling Handle and open container in a manner as to prevent spillage. Avoid contact with skin, eyes and clothing. Use only in area provided with appropriate exhaust ventilation.

Advice on protection against fire and explosion Keep away from heat and sources of ignition.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Store in original container and out of the reach of children, preferably in a locked storage area. Keep away from direct sunlight. Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

FOR COMMERCIAL APPLICATION AND ON-FARM APPLICATIONS, CONSULT THE PRODUCT LABEL.

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EYE PROTECTION: Use safety glasses, goggles, or face shield.

HAND PROTECTION: Wear chemical-resistant gloves. Rinse gloves before removal.

SKIN PROTECTION: Wear clean clothing with full length sleeves and pants.

RESPIRATORY PROTECTION: When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Follow manufacturer's instructions for cleaning/ maintaining personal protective equipment, PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS: Use adequate ventilation to minimize airborne concentrations of this material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Brown liquid
Odor	aromatic
Density	1.134 g/cm ³ at 20 °C
Boiling Point	300 °C
Flash Point	100 °C
pH	5-7

10. STABILITY AND REACTIVITY

Stability: Stable under normal use and storage conditions.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Avoid contact with heat or open flame.

Materials to Avoid: None known.

Hazardous Decomposition Products: Can decompose at high temperatures forming toxic gases.

11. TOXICOLOGICAL INFORMATION

Likely routes of exposure: Inhalation, ingestion, skin and eye contact.

Eye contact: May cause eye irritation, generally of minimal degree. Causes redness and tearing.

Skin contact: May cause an allergic skin reaction. Overexposure by skin absorption may cause symptoms similar to those caused by injection.

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Ingestion: Harmful if swallowed. May cause dizziness, temporary loss of muscle coordination nausea, vomiting, abdominal pain, decreased blood pressure, fatigue, muscle weakness, muscle spasms.

Inhalation: Harmful if inhaled. Vapours could cause coughing, burning, headache, dizziness, respiratory irritation and symptoms similar to those from ingestion.

Medical Conditions Aggravated by Exposure: Skin exposure may aggravate preexisting skin conditions. Inhalation of mist may aggravate preexisting respiratory conditions.

Information on toxicological effects

Acute oral toxicity

LD50 (female & male Rat) 737 mg/kg

Acute inhalation toxicity

LC50 (Rat) > 2.66 mg/l Exposure time: 4 h Determined in the form of liquid aerosol.

Acute dermal toxicity

LD50 (Rabbit) > 2,000 mg/kg

Skin corrosion/irritation..... Tested as slightly irritating to skin (Rabbit)

Serious eye damage/irritation Tested as mildly irritating to the eye (Rabbit)

Respiratory or skin sensitization ... Considered as a contact dermal sensitizer (Guinea pig)

Germ cell mutagenicity In vitro and in vivo test results indicate 2,4-D is not mutagenic or genotoxic. Products similar to the hydrocarbon component are not considered to be mutagenic.

Carcinogenicity The International Agency for Research on Cancer (IARC) lists exposure to 2,4-D as possibly carcinogenic to humans (Group 2B), based on inadequate evidence in humans and limited evidence in animals. 2,4-D was not carcinogenic to rats or mice in lifetime feeding studies.

Products similar to the hydrocarbon component are not considered to be mutagenic and are unlikely to cause tumors.

Reproductive toxicity..... 2,4-D is not considered a reproductive toxin.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data are from laboratory studies conducted on 2,4-D 2-ethylhexyl technical.

Aquatic Invertebrate: 48-Hour EC50(mg/L)..... 5.2 (Daphnia)

Fish: 96-Hour LC50(mg a.e./L).. 7.2 (Rainbow Trt), >5 (Bluegill), 0.24 (Tidewater Silverside)

Algae:120-Hour EC50(mg/L) >30 (Selenastrum), 4.1 (Navicula), 0.23 (Skeletonema)

Birds: Oral LD50(mg/kg)..... 663 (Mallard), Dietary LC50 (5-day) >5620 ppm (Mallard, Bobwhite)

Bees: Oral and Contact LD50..... >100 µg/bee

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Persistence and Degradability: In aerobic soil and water, 2,4-D 2EH is rapidly hydrolysed to 2,4-D acid, DT50<1 day. 2,4-D is microbially degraded with typical half-life (ester and acid) of 5 to 10 days. Persistent in anaerobic environments.

Mobility in soil Moderate to high mobility potential, but rapidly degraded

Environmental precautions

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.

Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

Do not allow to get into surface water, drains and ground water.

Do not apply when weather conditions favor runoff or drift.

Apply this product as specified on the label.

13. DISPOSAL CONSIDERATIONS

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE DISPOSAL: For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for cleanup of spills.

CONTAINER DISPOSAL: Dispose of product containers, waste containers, and residues according to label instructions and municipal, provincial, and federal health and environmental regulations.

14. TRANSPORT INFORMATION

CANADIAN TDG CLASSIFICATION:

Road & Rail Transport: This product is exempt from classification as a Dangerous Good in packs less than 450 kg or litres. For bulk shipments this product is a class 9, UN 3082, PG III

Vessel only: UN 3082, Environmentally hazardous substances, liquid, n.o.s, 9, PG III, Marine Pollutant

15. REGULATORY INFORMATION

CANADIAN REGULATIONS:

Hazardous Products Act Information: WHMIS 2015 Classification

This product is exempt under WHMIS2015.

Pest Control Products (PCP) Act Registration No.: xxxxxx

This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act

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(PCPA). These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. Read the approved PCPA label prior to using or handling this pest control product.

16. OTHER INFORMATION

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 2 Flammability: 1 Reactivity: 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe