



EsplAnade[®]

EZ

Non-selective control of emerged and pre-emerged grasses and broadleaf weeds in Non-Crop Areas including, Paths, Parking Lots, Curbs, Sidewalks, Driveways, Around Buildings, Gravel areas, Loading Ramps, Educational Facilities, Storage Yards, Vacant Lots, Railroad and Rail Yards, Managed Roadside, Fence Rows, Utilities, Parks, Hardscapes (including crack and crevice), Industrial, Municipal, Mulched Areas, and Government Sites.

- Dual Action formula kills existing weeds & grasses plus, Prevents New Weeds & grasses for up to 6 months
- Rainproof in 30 minutes
- Visible Results in Hours
- Simple, Convenient, Easy to use
- An easier way to manage large areas of unwanted weeds & grasses

ACTIVE INGREDIENTS:

Indaziflam.....	0.089%
Diquat dibromide.....	0.890%
Glyphosate isopropylamine salt.....	20.460%

OTHER INGREDIENTS:..... 78.561%

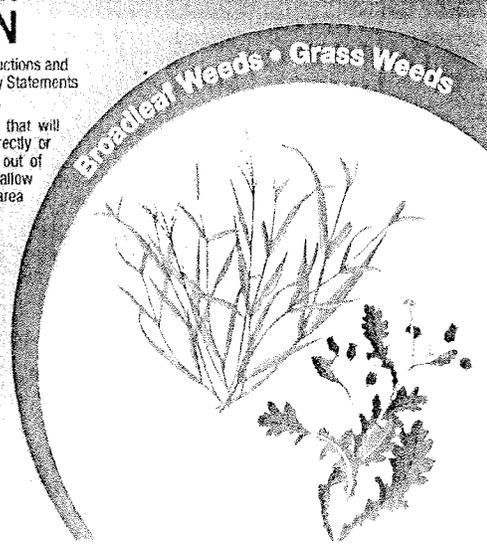
TOTAL:..... 100.00%

EPA Reg. No. 432-1528

KEEP OUT OF REACH OF CHILDREN CAUTION

See Back Panel for First Aid Instructions and Booklet for Complete Precautionary Statements and Directions for Use.

Do not apply this product in a way that will contact any person or pet, either directly or through drift. Keep people and pets out of the area during application. Do not allow people or pets to enter the treated area until sprays have dried



Net Contents
2.5 Gallons
80905653
61380653B 191230AV1

FIRST AID	
If Swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on Skin	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 – 20 minutes. • Call a poison control center or doctor for further treatment advice.
If In Eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for further treatment advice.
<p>NOTE: Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may call toll-free 1-800-334-7577 for medical emergency information. Active Ingredients: 20.460% glyphosate isopropylamine salt (CAS No. 38641-94-0), 0.890% diquat dibromide (CAS No. 85-00-7), and 0.089% indaziflam (CAS No. 950782-86-2).</p>	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

ENVIRONMENTAL HAZARDS

This product is toxic to fish, aquatic invertebrates, and plants. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters, or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. This chemical has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow. This pesticide may impact water quality due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having a high potential for reaching surface water via runoff for several months or more after application.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

1. PRODUCT APPLICATION RESTRICTIONS

- Do not use this product in or around vegetable gardens or in landscaped areas where young plants will soon be planted within 6 months after treatment.
- This product is not intended to be used on turf grass.
- Apply when the air is calm to avoid spray drift onto desirable plants.
- Avoid tracking product onto desirable vegetation - do not walk on treated area until the spray has dried.
- If spraying near the base of established plants (plants that have been in the ground at the same location for two or more years), shield them from spray drift using cardboard, plastic, or other materials. If the spray accidentally contacts a desirable plant, rinse it off immediately with water.
- Note: Do not apply using a steel sprayer, except stainless steel.

2. USE AMOUNT

- Apply to small and actively growing weeds. Best results will be achieved when temperatures are above 60° F.
- Thoroughly spray existing weeds and the entire area that you want protected.
- Certain hard-to-kill weeds can be re-sprayed 1 month after initial treatment using spot treatment.
- Add 8 -16 oz of product per 1 gallon of water.
- Shake bottle well before use. Add appropriate amounts of water & product to spray tank.

Rate	Add To	Covers
8 fl oz Product	1 gallon of water	500 square feet
16 fl oz Product	1 gallon of water	1000 square feet

Note: Do Not Apply more than a maximum of 5.4 gallons of product per acre per year.

3. FOR BEST RESULTS

WHEN TO APPLY

- Spray when weeds are small and actively growing when temperatures are above 60° F and when it is sunny.
- Certain hard-to-kill weeds may be re-treated in 2 weeks using spot application if necessary.
- Disturbing the weed preventative barrier may reduce the effectiveness of this product.
- Rain or watering 30 minutes after application will not wash away effectiveness.
- Under drought conditions, it may be necessary to water the product in. Irrigate to move the residual herbicide into the soil, but not to the point of visible runoff.

REPLANTING

- Ornamental bedding plants (annuals, perennials), trees, shrubs, sod & seed may be planted 6 months after application.

CLEAN UP

- Triple rinse the spray tank and flush all sprayer components with water to remove residual product. Empty the rinse water onto bare soil or gravel.

4. WHAT IT DOES

This product contains a proven blend of weed & grass killers to kill existing weeds & grasses plus a proprietary residual herbicide to keep new ones from coming back. Existing weeds & grasses begin to wilt & die within hours and new ones will not grow for up to 6 months.

5. WHERE TO USE

Non-selective control of emerged and pre-emerged grasses and broadleaf weeds in Non-Crop Areas including, Paths, Parking Lots, Curbs, Sidewalks, Driveways, Around Buildings, Educational Facilities, Gravel Areas, Loading Ramps, Storage Yards, Vacant Lots, Railroad and Rail Yards, Managed Roadside, Fence Rows, Utilities, Parks, Hardscapes (including crack and crevice), Industrial, Municipal, Mulched Areas, and Government Sites.

6. WEEDS CONTROLLED

Broadleaf Weeds	Scientific Name	Broadleaf Weeds	Scientific Name
Chickweed, Common	<i>Stellaria media</i>	Lambsquarters, common	<i>Chenopodium album</i>
Chickweed, Mouse-ear	<i>Cerastium vulgatum</i>	Lespedeza, Seresia	<i>Lespedeza cuneata</i>
Clover, White	<i>Trifolium repens</i>	London rocket	<i>Sisymbrium irio</i>
Corn speedwell	<i>Veronica arvensis</i>	Mustard, Wild	<i>Sinapis arvensis</i>
Curly dock	<i>Rumex crispus</i>	Spotted spurge	<i>Euphorbia maculata</i>
Evening primrose, Cutleaf	<i>Oenothera laciniata</i>	Prostrate spurge	<i>Euphorbia humifusa</i>
Dandelion, Common	<i>Taraxacum officinale</i>	Ragweed, Common	<i>Ambrosia artemisiifolia</i>
Filaree, redstem	<i>Erodium cicutarium</i>	Redroot pigweed	<i>Amaranthus retroflexus</i>
Fleabane, blackleaved	<i>Conyza bonariensis</i>	Shepherd's-purse	<i>Capsella bursa-pastoris</i>
Florida pusley	<i>Richardia scabra</i>	Sida, Prickly / Teaweed	<i>Sida spinosa</i>
Gromwell, Yellow	<i>Amsinckia calycina</i>	Sowthistle, Annual	<i>Sonchus olerachus</i>
Groundsel, common	<i>Senecio vulgaris</i>	Sunflower, Common	<i>Helianthus spp.</i>
Hairy fleabane	<i>Erigeron bonariensis</i>	Velvetleaf	<i>Abitton theophrasti</i>
Henbit	<i>Lamium amplexicaule</i>	Vetch, Common	<i>Vicia sativa</i>
Horseweed/Marestail	<i>Erigeron canadensis</i>	Wild mustard	<i>Sinapis arvensis</i>
Kochia	<i>Kochia scoparia</i>		
Grass Weeds	Scientific Name	Grass Weeds	Scientific Name
Annual bluegrass/ 'Poa'	<i>Poa annua</i>	Foxtail, Giant	<i>Setaria faberi</i>
Barnyardgrass, common	<i>Echinochloa crus-galli</i>	Foxtail, Green	<i>Setaria viridis</i>
Cheatgrass	<i>Bromus secalinus</i>	Foxtail, Yellow	<i>Setaria glauca</i>
Crabgrass	<i>Digitaria sp</i>	Goosegrass	<i>Eleusina indica</i>
Crabgrass, Large/Hairy	<i>Digitaria sanguinalis</i>	Ryegrass, Italian	<i>Lolium multiflorum</i>
Crabgrass, Smooth	<i>Digitaria ischaemum</i>	Ryegrass, Perennial	<i>Lolium perenne</i>
Foxtail brome	<i>Bromus rubens</i>		

ESPLANADE EZ AROUND ORNAMENTALS

Avoid contact of ESPLANADE EZ with foliage stems, green bark or bare roots of turfgrasses, trees, shrubs, or other listed desirable vegetation, since severe damage may result. If spraying areas adjacent to desirable plants with ESPLANADE EZ, use a shield while spraying to help prevent spray from contacting foliage of desirable plants.

When spraying around the base of established plants (plants that have been in the ground at the same location for two or more years), shield them from spray drift using cardboard, plastic, or other materials. If the spray accidentally contacts a desirable plant, rinse it off immediately with water.

When tank mixing with other products, it is the responsibility of the end-user/applicator to ensure that the tank-mix partner is registered in the state where the application is being made.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Protect ESPLANADE EZ, from freezing temperatures.

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available or reconditioning, if appropriate. Then puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties, and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties, and Limitations of Liability.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Bayer CropScience LP. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE LP MAKES NO OTHER

WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of Bayer CropScience LP is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE LP DISCLAIMS ANY LIABILITY WHATSOEVER FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

LIMITATIONS OF LIABILITY: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW THE EXCLUSIVE REMEDY OF THE USER OR BUYER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID, OR AT BAYER CROPSCIENCE LP'S ELECTION, THE REPLACEMENT OF PRODUCT.

Bayer (reg'd), the Bayer Cross (reg'd) and Esplanade® are registered trademarks of Bayer.

Produced for:
Bayer Environmental Science
A Division of Bayer CropScience LP
5000 CentreGreen Way, Suite 400
Cary, NC 27513

Bayer



Esplanade[®] EZ

PULL HERE TO OPEN

Non-selective control of emerged and pre-emerged grasses and broadleaf weeds in Non-Crop Areas including, Paths, Parking Lots, Curbs, Sidewalks, Driveways, Around Buildings, Gravel areas, Loading Ramps, Educational Facilities, Storage Yards, Vacant Lots, Railroad and Rail Yards, Managed Roadsides, Fence Rows, Utilities, Parks, Hardscapes (including crack and crevice), Industrial, Municipal, Mulched Areas, and Government Sites.

- Dual Action formula kills existing weeds & grasses plus, Prevents New Weeds & grasses for up to 6 months
- Rainproof in 30 minutes
- Visible Results in Hours
- Simple, Convenient, Easy to use
- An easier way to manage large areas of unwanted weeds & grasses

ACTIVE INGREDIENTS:

Indaziflam.....	0.089%
Diquat dibromide.....	0.890%
Glyphosate isopropylamine salt.....	20.460%
OTHER INGREDIENTS:	78.561%
TOTAL:	100.00%

EPA Reg. No. 432-1628

KEEP OUT OF REACH OF CHILDREN CAUTION

See Panel for First Aid Instructions and Booklet for Complete Precautionary Statements and Directions for Use.

Do not apply this product in a way that will contact any person or pet, either directly or through drift. Keep people and pets out of the area during application. Do not allow people or pets to enter the treated area until sprays have dried.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION
Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing.
Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

ENVIRONMENTAL HAZARDS
This product is toxic to fish, aquatic invertebrates, and plants. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters, or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. This chemical has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow. This pesticide may impact water quality due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having a high potential for reaching surface water via runoff for several months or more after application.

FIRST AID	
If Swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on Skin	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 - 20 minutes. • Call a poison control center or doctor for further treatment advice.
If in Eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for further treatment advice.
<p>NOTE: Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may call toll-free 1-800-334-7577 for medical emergency information.</p> <p>Active Ingredients: 20.460% glyphosate isopropylamine salt (CAS No. 38641-94-0), 0.890% diquat dibromide (CAS No. 85-00-7), and 0.089% indaziflam (CAS No. 850782-86-2).</p>	

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.
PESTICIDE STORAGE: Protect ESPLANADE[®] EZ, from freezing temperatures.
PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Pesticide wastes are acutely hazardous.
Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
CONTAINER DISPOSAL: Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available or reconditioning, if appropriate. Then puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.



(01)00785740230855

Net Contents
2.5 Gallons
80905653
61380653B 191230AV1

Produced for
Bayer Environmental Science
A Division of Bayer CropScience LP
5900 CentreGreen Way, Suite 400
Cary, NC 27513



MONSANTO COMPANY
Safety Data Sheet
Commercial Product

1. PRODUCT AND COMPANY IDENTIFICATION

1.1. Product identifier

Roundup PowerMAX® Herbicide

1.1.1. Chemical name

Not applicable.

1.1.2. Synonyms

None.

1.1.3. EPA Reg. No.

524-549

1.2. Product use

Herbicide

1.3. Company

MONSANTO COMPANY, 800 N. Lindbergh Blvd., St. Louis, MO, 63167

Telephone: 800-332-3111, Fax: 314-694-5557

E-mail: safety.datasheet@monsanto.com

1.4. Emergency numbers

FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT Call
CHEMTREC - Day or Night: 1-800-424-9300 toll free in the continental U.S., Puerto Rico, Canada, or
Virgin Islands. For calls originating elsewhere: 703-527-3887 (collect calls accepted).
FOR MEDICAL EMERGENCY - Day or Night: +1 (314) 694-4000 (collect calls accepted).

2. HAZARDS IDENTIFICATION

2.1. Classification

OSHA Hazard Communication Standard, 29 CFR 1910.1200 (2012)
Acute toxicity, inhalation - Category 4

2.2. Label elements

2.2.1. Signal word

WARNING!

2.2.2. Hazard pictogram/pictograms



2.2.3. Hazard statement/statements

Harmful if inhaled.

2.2.4. Precautionary statement/statements

Do not breathe mist/vapours/spray.

Use only outdoors or in a well-ventilated area.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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

2.3. Appearance and odour (colour/form/odour)

Pale amber-Pale brown /Liquid / Odourless

2.4. OSHA Status

This product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Refer to section 11 for toxicological and section 12 for environmental information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Active ingredient

Potassium salt of N-(phosphonomethyl)glycine; {Potassium salt of glyphosate}

Composition

COMPONENT	CAS No.	% by weight (approximate)
Potassium salt of glyphosate	70901-12-1	48.7
Other ingredients		51.3

The specific chemical identity is being withheld because it is trade secret information of Monsanto Company.

4. FIRST AID MEASURES

Use personal protection recommended in section 8.

4.1. Description of first aid measures

- 4.1.1. **Eye contact:** If in eyes, hold eye open and rinse slowly and gently for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.
- 4.1.2. **Skin contact:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- 4.1.3. **Inhalation:** If inhaled, move person to fresh air. If person is not breathing, call emergency number or ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
- 4.1.4. **Ingestion:** Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison center or doctor. Do not give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

- 4.2.1. **Eye contact, short term:** May cause temporary eye irritation.
- 4.2.2. **Skin contact, short term:** Not expected to produce significant adverse effects when recommended use instructions are followed.
- 4.2.3. **Inhalation, short term:** Not expected to produce significant adverse effects when recommended use instructions are followed.

4.3. Indication of any immediate medical attention and special treatment needed

- 4.3.1. **Advice to doctors:** This product is not an inhibitor of cholinesterase.
- 4.3.2. **Antidote:** Treatment with atropine and oximes is not indicated.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

5.1.1. Recommended: Water, foam, dry chemical, carbon dioxide (CO₂)

5.2. Special hazards

5.2.1. Unusual fire and explosion hazards

Minimise use of water to prevent environmental contamination.
Environmental precautions: see section 6.

5.2.2. Hazardous products of combustion

Carbon monoxide (CO), phosphorus oxides (P_xO_y), nitrogen oxides (NO_x)

5.3. Fire fighting equipment: Self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

5.4. Flash point

Does not flash.

6. ACCIDENTAL RELEASE MEASURES

6.1. Environmental precautions

Minimise spread.
Contain spillage with sand bags or other means.
Keep out of drains, sewers, ditches and water ways.

6.2. Methods for cleaning up

SMALL QUANTITIES:

Flush spill area with water.

LARGE QUANTITIES:

Absorb in earth, sand or absorbent material.
Dig up heavily contaminated soil.
Collect in containers for disposal.
Refer to section 7 for types of containers.
Flush residues with small quantities of water.
Minimise use of water to prevent environmental contamination.

Refer to section 13 for disposal of spilled material.

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

7. HANDLING AND STORAGE

Good industrial practice in housekeeping and personal hygiene should be followed.

7.1. Precautions for safe handling

Avoid contact with eyes, skin and clothing. When using do not eat, drink or smoke. Wash hands thoroughly after handling or contact. Do not contaminate drains, sewers and water ways when disposing of equipment rinse water. Thoroughly clean equipment after use. Refer to section 13 of the safety data sheet for disposal of rinse water. Wash contaminated clothing before re-use.

7.2. Conditions for safe storage

Minimum storage temperature: -15 °C

Maximum storage temperature: 50 °C

Compatible materials for storage: stainless steel, fibreglass, plastic, glass lining

Incompatible materials for storage: galvanised steel, unlined mild steel, see section 10.
Keep out of reach of children.
Keep away from food, drink and animal feed.
Keep only in the original container.
Partial crystallization may occur on prolonged storage below the minimum storage temperature.
If frozen, place in warm room and shake frequently to put back into solution.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Airborne exposure limits

Components	Exposure Guidelines
Potassium salt of glyphosate	No specific occupational exposure limit has been established.
Other ingredients	No specific occupational exposure limit has been established.

8.2. Engineering controls: No special requirement when used as recommended.

8.3. Recommendations for personal protective equipment

8.3.1. Eye protection: If there is significant potential for contact: Wear chemical goggles.

8.3.2. Skin protection: Wear chemical resistant gloves. If there is significant potential for contact: Wear face shield. Wear chemical resistant clothing/footwear. Applicators and other handlers must wear: Wear long sleeved shirt, long pants and shoes with socks. Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment. If no such instructions for washables, use detergent and hot water.

8.3.3. Respiratory protection: No special requirement when used as recommended.

When recommended, consult manufacturer of personal protective equipment for the appropriate type of equipment for a given application.

9. PHYSICAL AND CHEMICAL PROPERTIES

These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

Colour/colour range:	Pale amber - Pale brown
Odour:	Odourless
Form:	Liquid
Physical form changes (melting, boiling, etc.):	
Melting point:	No data.
Boiling point:	No data.
Flash point:	Does not flash.
Explosive properties:	No data.
Auto ignition temperature:	No data.
Self-accelerating decomposition temperature (SADT):	No data.
Oxidizing properties:	No data.
Specific gravity:	1.3565 @ 20 °C / 15.6 °C
Vapour pressure:	No significant volatility; aqueous solution.
Vapour density:	Not applicable.
Evaporation rate:	No data.

Dynamic viscosity:	Not applicable.
Kinematic viscosity:	No data.
Density:	1.3565 g/cm ³ @ 20 °C
Solubility:	Water: Completely miscible.
pH:	4.3 - 4.8
Partition coefficient:	log Pow: -3.2 @ 25 °C (glyphosate)

10. STABILITY AND REACTIVITY

10.1. Reactivity

Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

10.2. Stability

Stable under normal conditions of handling and storage.

10.3. Possibility of hazardous reactions

Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

10.4. Incompatible materials

galvanised steel; unlined mild steel; see section 10.;
Compatible materials for storage: see section 7.2.

10.5. Hazardous decomposition

Thermal decomposition: Hazardous products of combustion: see section 5.

11. TOXICOLOGICAL INFORMATION

This section is intended for use by toxicologists and other health professionals.

Likely routes of exposure: Skin contact, eye contact, inhalation

Potential health effects

Eye contact, short term: May cause temporary eye irritation.

Skin contact, short term: Not expected to produce significant adverse effects when recommended use instructions are followed.

Inhalation, short term: Not expected to produce significant adverse effects when recommended use instructions are followed.

Data obtained on similar products and on components are summarized below.

Similar formulation

Acute oral toxicity

Rat, LD₅₀: > 5,000 mg/kg body weight
Practically non-toxic.

Acute dermal toxicity

Rat, LD₅₀: > 5,000 mg/kg body weight
Practically non-toxic.

Acute inhalation toxicity

Rat, LC₅₀, 4 hours, aerosol:

Practically non-toxic. No 4-hr LC50 at the maximum tested concentration. For purposes of the inhalation test, product was artificially aerosolized. Since this material will not become aerosolized to a hazardous concentration during transport, it is classified as non-hazardous under the transportation regulations in accordance with 2.6.2.2.4.7(b) and (c) of the UN Recommendations on the Transport of Dangerous Goods.

Skin sensitization

Guinea pig, 3-induction Buehler test:

Positive incidence: 0 %

Similar formulation

Skin irritation

Rabbit, 3 animals, OECD 404 test:

Days to heal: 7

Primary Irritation Index (PII): 1.9/8.0

Slight irritation.

Eye irritation

Rabbit, 3 animals, OECD 405 test:

Days to heal: 10

Moderate irritation.

N-(phosphonomethyl)glycine; { glyphosate acid}

Genotoxicity

Not genotoxic.

Carcinogenicity

|| Not carcinogenic in rats or mice. Listed as Category 2A by the International Agency for Research on Cancer (IARC) but our expert opinion is that classification as a carcinogen is not warranted.

Reproductive/Developmental Toxicity

Developmental effects in rats and rabbits only in the presence of significant maternal toxicity.

Reproductive effects in rats only in the presence of significant maternal toxicity.

12. ECOLOGICAL INFORMATION

This section is intended for use by ecotoxicologists and other environmental specialists.

Data obtained on similar products and on components are summarized below.

Similar formulation

Aquatic toxicity, fish

Bluegill sunfish (*Lepomis macrochirus*):

Acute toxicity, 96 hours, static, LC50: 5.2 mg/L

Moderately toxic.

Common carp (*Cyprinus carpio*):

Acute toxicity, 96 hours, static, LC50: 4.0 mg/L

Moderately toxic.

Aquatic toxicity, invertebrates

Water flea (*Daphnia magna*):

Acute toxicity, 48 hours, static, EC50: 8.0 mg/L

Moderately toxic.

Similar formulation

Aquatic toxicity, algae/aquatic plants

Green algae (*Selenastrum capricornutum*):

Acute toxicity, 72 hours, static, EC50: 0.46 mg/L
Highly toxic.

Arthropod toxicity

Honey bee (*Apis mellifera*):

Oral, 48 hours, LD50: > 281 µg/bee
Practically non-toxic.

Honey bee (*Apis mellifera*):

Contact, 48 hours, LD50: > 273 µg/bee
Practically non-toxic.

Soil organism toxicity, invertebrates

Earthworm (*Eisenia foetida*):

Acute toxicity, 14 days, LC50: > 10,000 mg/kg dry soil
Practically non-toxic.

Soil organism toxicity, microorganisms

Nitrogen and carbon transformation test:

29.5 kg/ha, 28 days: Less than 25% effect on nitrogen or carbon transformation processes in soil.

N-(phosphonomethyl)glycine; { glyphosate acid}

Avian toxicity

Bobwhite quail (*Colinus virginianus*):

Acute oral toxicity, single dose, LD50: > 3,851 mg/kg body weight
Practically non-toxic.

Bioaccumulation

Bluegill sunfish (*Lepomis macrochirus*):

Whole fish: BCF: < 1
No significant bioaccumulation is expected.

Dissipation

Soil, field:

Half life: 2 - 174 days
Koc: 884 - 60,000 L/kg
Adsorbs strongly to soil.

Water, aerobic:

Half life: < 7 days

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

13.1.1. Product

Keep out of drains, sewers, ditches and water ways. Recycle if appropriate facilities/equipment available. Burn in proper incinerator. Follow all local/regional/national/international regulations.

13.1.2. Container

See the individual container label for disposal information. Emptied containers retain vapour and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Empty packaging completely. Triple or pressure rinse empty containers. Do NOT contaminate water when disposing of rinse waters. Ensure packaging cannot be reused. Do NOT re-use containers. Store for collection by approved waste disposal service. Recycle if appropriate facilities/equipment available. Follow all local/regional/national/international regulations.

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

14.1. US Dept. of Transportation (DOT) Hazardous Materials Regulations (49 CFR Parts 105-180)

Proper Shipping Name (Technical Name if required):	Not regulated for domestic ground transportation. ()
---	---

14.2. IMDG Code

Proper Shipping Name (Technical Name if required):	Not regulated for transport under IMO Regulations ()
---	---

14.3. IATA/ICAO

Proper Shipping Name (Technical Name if required):	Not regulated for transport under IATA/ICAO Regulations ()
---	---

15. REGULATORY INFORMATION

15.1. Environmental Protection Agency

15.1.1. TSCA Inventory Exempt

15.1.2. SARA Title III Rules

Section 311/312 Hazard Categories: Immediate
Section 302 Extremely Hazardous Substances: Not applicable.
Section 313 Toxic Chemical(s): Not applicable.

15.1.3. CERCLA Reportable quantity Not applicable.

15.1.4. Federal Insecticide, Fungicide, Rodenticide Act (FIFRA)

This chemical is a pesticide product regulated by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION!
CAUSES MODERATE EYE IRRITATION

Acute oral toxicity: FIFRA category IV.
Acute dermal toxicity: FIFRA category IV.
Acute inhalation toxicity: FIFRA category IV.

Skin irritation: FIFRA category IV.
Eye irritation: FIFRA category III.

16. OTHER INFORMATION

The information given here is not necessarily exhaustive but is representative of relevant, reliable data.

Follow all local/regional/national/international regulations.

Please consult supplier if further information is needed.

In this document the British spelling was applied.

|| Significant changes versus previous edition.

	Health	Flammability	Instability	Additional Markings
NFPA	1	1	1	

0 = Minimal hazard, 1 = Slight hazard, 2 = Moderate hazard, 3 = Severe hazard, 4 = Extreme hazard

Full denomination of most frequently used acronyms BCF (Bioconcentration Factor), BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand), EC50 (50% effect concentration), ED50 (50% effect dose), I.M (intramuscular), I.P (intraperitoneal), I.V (intravenous), Koc (Soil adsorption coefficient), LC50 (50% lethality concentration), LD50 (50% lethality dose), LDLo (Lower limit of lethal dosage), LEL (Lower Explosion Limit), LOAEC (Lowest Observed Adverse Effect Concentration), LOAEL (Lowest Observed Adverse Effect Level), LOEC (Lowest Observed Effect Concentration), LOEL (Lowest Observed Effect Level), MEL (Maximum Exposure limit), MTD (Maximum Tolerated Dose), NOAEC (No Observed Adverse Effect Concentration), NOAEL (No Observed Adverse Effect Level), NOEC (No Observed Effect Concentration), NOEL (No Observed Effect Level), OEL (Occupational Exposure Limit), PEL (Permissible Exposure Limit), PII (Primary Irritation Index), Pow (Partition coefficient n-octanol/water), S.C. (subcutaneous), STEL (Short-Term Exposure Limit), STOT SE (Specific Target Organ Toxicity, Single Exposure), STOT RE (Specific Target Organ Toxicity, Repeated Exposure), TLV-C (Threshold Limit Value-Ceiling), TLV-TWA (Threshold Limit Value - Time Weighted Average), UEL (Upper Explosion Limit)

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, MONSANTO Company or any of its subsidiaries makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for the purposes prior to use. In no event will MONSANTO Company or any of its subsidiaries be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR TO THE PRODUCT TO WHICH INFORMATION REFERS.

Mo Hansen

From: Chad Yerges
Sent: Tuesday, September 01, 2020 3:51 PM
To: Mo Hansen
Subject: weed control
Attachments: Knock-Out-Info.pdf

Mo

Can you add this also. I bought this to try as an alternative to Round up. It is a ready to use product at a price of \$ 240 for a 5 gallon container.

Chad Yerges
City of Waterloo -- DPW Director
211 Hendricks Street
Waterloo, WI 53594

(920) 478-3025

aero herbicides

Our AERO® line of Herbicides consists of a full range of non-selective weed killers, including oil and water-based products, liquids and granular, non-residuals and soil sterilants.

HIGHLIGHTS

- Non-selective
- Soil sterilant
- Fast burn-down of weeds
- Oil-based

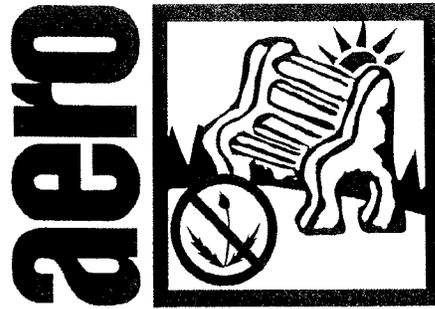
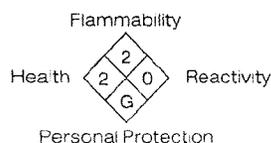
TYPICAL PROPERTIES

- Specific Gravity: **0.89**
- Bromacil: **0.98%**
- Isooctyl ester of 2-4-D: **1.09%**
- Petroleum Oil: **97.93%**
- Density: **7.4 lbs/gal**
- Coverage:
Annual Weeds: **1-2 gal/1000 sq/ft**
Perennial Weeds: **3-5 gal/1000 sq/ft**
- Appearance: **Brown liquid**
- Odor: **Petroleum**

SAFETY CAUTIONS

- Keep out of reach of children.
- May be fatal if swallowed, absorbed through skin or inhaled. Causes skin irritation. Do not breathe spray mist. Do not get in eyes or on clothing.
- Refer to M.S.D.S. and product label for additional safety information and directions for use.

HMIS RATINGS



Knock Out Ready-to-use Non-selective Weed Killer

Controls weeds and grasses through foliage and root contact

This product is a ready-to-use solvent-based non-selective weed killer. It contains two active ingredients (hence the name Double Kill): Bromacil, which controls weeds through root contact and gives season-long residual control, and 2-4-D which controls weeds through foliage and gives immediate weed burn-down. This weed killer is particularly effective in areas where undesirable vegetation is tall and well-established.

APPLICATION- May be used to kill most weeds and grasses on parking lots, fence rows, loading ramps, railroad sidings, storage yards, around buildings and industrial plant sites.

DIRECTIONS- To control most weeds for an extended period of time on non-cropland areas, such as: parking lots, fence rows, loading ramps, railroad sidings, storage yards, around buildings and industrial plant sites, apply 2-3½ gallons per 1,000 sq. ft. (80-150 gallons per acre). To control annual weeds and grasses such as foxtail, ryegrass, wild oats, crabgrass, cheatgrass, broomsedge, ragweed, lambsquarter and turkey mullein, apply 1-2 gallons per 1,000 sq. ft. (40-80 gallons per acre). For other hard-to-kill perennial weeds and grasses, such as Johnsongrass, saltgrass, bouncing bet, bracken fern and horsetail, apply 3½ gallons per 1,000 sq. ft. (150 gallons per acre).

