

# Safety Data Sheet: OPTI-GRO OPTI-KILL

Supersedes Date 02/05/2009

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## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** OPTI-GRO OPTI-KILL  
**Recommended use** Herbicide  
**Information on Manufacturer**  
CHECK-MARK DIV. OF DM RESOURCES, INC.  
1310 E. NORTHGATE DRIVE  
IRVING, TEXAS 75062

**Product Code** 0855  
**Chemical nature** Solvent mixture  
**Emergency Telephone Number**  
CHEMTREC® 800-424-9300  
**Telephone inquiry**  
972-579-2477

## 2. HAZARD IDENTIFICATION

**Color** Yellow - Amber

**Physical State** Liquid

**Odor** solvent

### GHS

#### Classification

##### Physical Hazards

Flammable liquids

Category 4

##### Health Hazard

Aspiration Toxicity

Category 1

Acute Inhalation Toxicity - Vapors

Category 4

Skin Corrosion/Irritation

Category 3

Serious Eye Damage/Eye Irritation

Category 2A

Skin Sensitization

Category 1

Carcinogenicity

Category 2

Specific target organ systemic toxicity (single exposure)

Category 3

Specific target organ systemic toxicity (repeated exposure)

Category 2

##### Other hazards

None

#### Labeling

##### Signal Word

**DANGER**



##### Hazard Statements

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H332 - Harmful if inhaled

H336 - May cause drowsiness or dizziness

H304 - May be fatal if swallowed and enters airways

H373 - May cause damage to organs through prolonged or repeated exposure

H351 - Suspected of causing cancer

##### Precautionary Statements

P202 - Do not handle until all safety precautions have been read and understood

P280 - Wear protective gloves, protective clothing and eye protection.

P210 - Keep away from heat, sparks, open flames or hot surfaces.

P270 - Do not eat, drink or smoke when using this product

P260 - Do not breathe mist or vapor

P271 - Use in a well-ventilated area.

P264 - Wash face, hands and any exposed skin thoroughly after handling.

P272 - Contaminated work clothing should not be allowed out of the workplace

P302+ P352 - IF ON SKIN: Wash with plenty of soap and water

P333 + P313 - If skin irritation or rash occurs, get medical attention

P363 - Wash contaminated clothing before reuse

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P310 - Immediately call a physician

P304 + P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.

P312 - Call a physician if unwell.

P301+ P312 - IF SWALLOWED: Call a physician if unwell

P331 - DO NOT induce vomiting

P403 + P235 - Store in a well-ventilated place. Keep cool

P233 - Keep container tightly closed

P501 - Dispose of contents and container in accordance with applicable regulations.

7 % of the mixture consists of ingredient(s) of unknown toxicity

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Naphtha (petroleum), heavy aromatic	64742-94-5	60-100
Naphthalene	91-20-3	5-10
Hexylene glycol	107-41-5	3-7
Bromacil	314-40-9	1-5
Poly(oxy-1,2-ethanediyl), -alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched, phosphates	152143-22-1	1-5
Pseudocumene	95-63-6	1-5
Cumene	98-82-8	1-5
1,3,5-Trimethylbenzene	108-67-8	1-5
Benzenesulfonic acid, dodecyl-, branched, calcium salt	70528-83-5	1-5

## 4. FIRST AID MEASURES

<b>General advice</b>	Do not get in eyes, on skin or on clothing. Avoid breathing vapors or mists.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Call a physician or poison control center immediately.
<b>Skin Contact</b>	Remove contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
<b>Inhalation</b>	Move to fresh air. In case of shortness of breath, give oxygen. If breathing has stopped, apply artificial respiration. Get medical attention immediately.
<b>Ingestion</b>	If swallowed, call a poison control center or doctor immediately. Give small amounts of water to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center.
<b>Notes to physician</b>	Aspiration hazard if swallowed - can enter lungs and cause damage. May be fatal if swallowed and enters airways. May cause sensitization of susceptible persons.

## 5. FIRE-FIGHTING MEASURES

<b>Flash Point</b>	150 °F / 66 °C	<b>Method</b>	Seta closed cup
<b>Flammability Limits in Air % Mixture.</b>		<b>Upper</b>	11.7
<b>Suitable Extinguishing Media</b>		<b>Lower</b>	1.8
Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Foam. Alcohol-resistant foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.			
<b>Specific hazards arising from the chemical</b>			
Combustible Liquid. Solvent vapors are heavier than air and may spread along floors. Vapors may ignite and explode. Material can create slippery conditions.			
<b>Protective Equipment and Precautions for Firefighters</b>			
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.			
<b>NFPA</b>	<b>Health 2</b>	<b>Flammability 2</b>	<b>Instability 0</b>
<b>HMIS</b>	<b>Health 2</b>	<b>Flammability 2</b>	<b>Instability 0</b>

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Use personal protective equipment. Remove all sources of ignition. Ensure adequate ventilation.
<b>Environmental Precautions</b>	Prevent further leakage or spillage if safe to do so. Material can create slippery conditions.
<b>Methods for Containment</b>	Do not flush into surface water or sanitary sewer system. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
<b>Methods for Cleaning Up</b>	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust)
<b>Neutralizing Agent</b>	Not applicable.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Keep away from open flames, hot surfaces and sources of ignition. Do not get in eyes, on skin or on clothing. Avoid breathing vapors or mists.
<b>Storage</b>	Keep away from heat and sources of ignition. Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.
<b>Storage Temperature</b>	<b>Minimum</b> 35 °F / 2 °C
<b>Storage Conditions</b>	<b>Maximum</b> 120 °F / 49 °C
	<b>Indoor</b> X <b>Outdoor</b> X <b>Heated</b> <b>Refrigerated</b>

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH
Naphtha (petroleum), heavy aromatic	No data available	No data available	No data available
Naphthalene	TWA: 10 ppm Skin STEL: 15 ppm	TWA: 10 ppm TWA: 50 mg/m <sup>3</sup>	IDLH: 250 ppm STEL 15 ppm STEL 75 mg/m <sup>3</sup> TWA: 10 ppm TWA: 50 mg/m <sup>3</sup>
Hexylene glycol	Ceiling: 25 ppm	No data available	Ceiling: 25 ppm Ceiling: 125 mg/m <sup>3</sup>
Bromacil	TWA: 10 mg/m <sup>3</sup>	No data available	TWA: 1 ppm TWA: 10 mg/m <sup>3</sup>
Poly(oxy-1,2-ethanediyl), -alpha.-(4-nonylphenyl)- .omega.-hydroxy-, branched, phosphates	No data available	No data available	No data available
Pseudocumene	No data available	No data available	TWA: 25 ppm TWA: 125 mg/m <sup>3</sup>
Cumene	TWA: 50 ppm	TWA: 50 ppm TWA: 245 mg/m <sup>3</sup> Skin	IDLH: 900 ppm TWA: 50 ppm TWA: 245 mg/m <sup>3</sup>
1,3,5-Trimethylbenzene	No data available	No data available	TWA: 25 ppm TWA: 125 mg/m <sup>3</sup>
Benzenesulfonic acid, dodecyl-, branched, calcium salt	No data available	No data available	No data available

**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

**Personal Protective Equipment****Eye/Face Protection**

Tightly fitting safety goggles.

**Skin Protection**

Wear protective gloves/clothing, Impervious gloves.

**Respiratory Protection**

In case of inadequate ventilation wear respiratory protection. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**General Hygiene Considerations**

Wear protective gloves/clothing. Ensure that eyewash stations and safety showers are close to the workstation location. Remove and wash contaminated clothing before re-use.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State</b>	Liquid	<b>Viscosity</b>	Non viscous
<b>Color</b>	Yellow - Amber	<b>Odor</b>	solvent
<b>Odor Threshold</b>	Not applicable	<b>Appearance</b>	Transparent
<b>pH</b>	Not applicable	<b>Specific Gravity</b>	0.923
<b>Evaporation Rate</b>	0.05 (Butyl acetate=1)	<b>Percent Volatile (Volume)</b>	96.5
<b>VOC Content (%)</b>	93.2	<b>VOC Photoreactive (Y/N)</b>	Yes
<b>VOC Max Use Dilution (wt%)</b>	9.32	<b>VOC Content (g/L)</b>	860
<b>Vapor Pressure</b>	0.54 mmHg @ 70°F	<b>Vapor Density</b>	4.7 (Air = 1.0)
<b>Solubility</b>	Partly miscible	<b>n-Octanol/Water Partition</b>	No data available
<b>Melting Point/Range</b>	No data available	<b>Decomposition Temperature</b>	No data available
<b>Boiling Point/Range</b>	360 °F / 182 °C	<b>Flammability (solid, gas)</b>	No data available
<b>Flash Point</b>	150 °F / 66 °C	<b>Method</b>	Seta closed cup
<b>Autoignition Temperature</b>	No information available.		
<b>Flammability Limits in Air %</b>	Mixture.	<b>Upper 11.7 Lower 1.8</b>	

**10. STABILITY AND REACTIVITY**

<b>Chemical Stability</b>	Stable. Hazardous polymerization does not occur.
<b>Conditions to Avoid</b>	Keep away from open flames, hot surfaces, and sources of ignition
<b>Incompatible Products</b>	Strong oxidizing agents, Strong acids, Amines.
<b>Hazardous Decomposition Products</b>	None under normal use
<b>Possibility of Hazardous Reactions</b>	None under normal processing

**11. TOXICOLOGICAL INFORMATION****Product Information**

The following values are calculated based on chapter 3.1 of the GHS document (Rev. 3, 2009):

<b>Oral LD50</b>	No information available
<b>Dermal LD50</b>	No information available
<b>Inhalation LC50</b>	
<b>Gas</b>	No information available
<b>Mist</b>	No information available
<b>Vapor</b>	No information available

**Principle Route of Exposure** Skin contact, Eye contact, Inhalation.

**Primary Routes of Entry** Inhalation, Skin Absorption.

**Acute Effects****Eyes**

Corrosive to the eyes and may cause severe damage including blindness.

<b>Skin</b>	Causes skin irritation. May cause allergic skin reaction.
<b>Inhalation</b>	May cause irritation of respiratory tract. Inhalation may cause central nervous system effects. May cause central nervous system depression. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.
<b>Ingestion</b>	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. Aspiration hazard. May be fatal if swallowed and enters airways.
<b>Chronic Toxicity</b>	May cause skin sensitization in some individuals. Liver and kidney injuries may occur. Contains a known or suspected carcinogen.
<b>Target Organ Effects</b>	Blood, Central nervous system, Kidney, Liver, Respiratory system, Thyroid, Immune system, Heart, Ears, Skin, Eyes.
<b>Aggravated Medical Conditions</b>	Blood disorders, Neurological disorders, Kidney disorders, Liver disorders, Respiratory disorders, Skin disorders, Heart disease.

## Component Information

**Acute Toxicity**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
Naphtha (petroleum), heavy aromatic	> 5000 mg/kg ( Rat )	> 2 mL/kg ( Rabbit )	> 590 mg/m <sup>3</sup> ( Rat ) 4 h	no data available	no data available
Naphthalene	no data available	> 20 g/kg ( Rabbit )	> 340 mg/m <sup>3</sup> ( Rat ) 1 h	no data available	no data available
Hexylene glycol	= 3692 mg/kg ( Rat )	no data available	> 310 mg/m <sup>3</sup> ( Rat ) 1 h	no data available	no data available
Bromacil	no data available	no data available	no data available	no data available	no data available
Poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched, phosphates	no data available	no data available	no data available	no data available	no data available
Pseudocumene	= 3400 mg/kg ( Rat )	> 3160 mg/kg ( Rabbit )	= 18 g/m <sup>3</sup> ( Rat ) 4 h	no data available	no data available
Cumene	= 1400 mg/kg ( Rat )	= 12300 µL/kg ( Rabbit )	no data available	no data available	no data available
1,3,5-Trimethylbenzene	no data available	no data available	= 24 g/m <sup>3</sup> ( Rat ) 4 h	no data available	no data available
Benzenesulfonic acid, dodecyl-, branched, calcium salt	no data available	no data available	no data available	no data available	no data available

**Chronic Toxicity**

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
Naphtha (petroleum), heavy aromatic	no data available	no data available	no data available	no data available	CNS
Naphthalene	no data available	Skin sensitization	no data available	no data available	eyes, blood, liver, kidneys, skin, CNS, immune system
Hexylene glycol	no data available	Skin sensitization	no data available	no data available	eyes, CNS, respiratory system, skin, immune system
Bromacil	no data available	no data available	no data available	no data available	eyes, respiratory system, skin, thyroid
Poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched, phosphates	no data available	no data available	no data available	no data available	no data available
Pseudocumene	no data available	no data available	no data available	no data available	eyes, CNS, respiratory system, skin, blood, ears, heart
Cumene	no data available	no data available	no data available	no data available	eyes, CNS, respiratory system, skin
1,3,5-Trimethylbenzene	no data available	no data available	no data available	no data available	eyes, CNS, respiratory system, skin, blood, ears, heart
Benzenesulfonic acid, dodecyl-, branched, calcium salt	no data available	no data available	no data available	no data available	no data available

**Carcinogenicity**

Component	ACGIH	IARC	NTP	OSHA	Other
Naphtha (petroleum), heavy aromatic	not applicable	not applicable	not applicable	not applicable	not applicable
Naphthalene	not applicable	not applicable	not applicable	not applicable	not applicable
Hexylene glycol	not applicable	not applicable	not applicable	not applicable	not applicable
Bromacil	A3	not applicable	not applicable	not applicable	not applicable
Poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched, phosphates	not applicable	not applicable	not applicable	not applicable	not applicable
Pseudocumene	not applicable	not applicable	not applicable	not applicable	not applicable
Cumene	not applicable	Group 2B	not applicable	X	not applicable

1,3,5-Trimethylbenzene	not applicable	not applicable	not applicable	not applicable	not applicable
Benzenesulfonic acid, dodecyl-, branched, calcium salt	not applicable	not applicable	not applicable	not applicable	not applicable

## 12. ECOLOGICAL INFORMATION

Product Information No information available.

Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
Naphtha (petroleum), heavy aromatic	EC50 = 2.5 mg/L Skeletonema costatum 72 h	LC50 = 19 mg/L Pimephales promelas 96 h LC50 = 2.34 mg/L Oncorhynchus mykiss 96 h LC50 = 1740 mg/L Lepomis macrochirus 96 h LC50 = 45 mg/L Pimephales promelas 96 h LC50 = 41 mg/L Pimephales promelas 96 h	no data available	EC50= 0.95 mg/L 48 h	2.9 - 6.1
Naphthalene	EC50 = 0.4 mg/L Skeletonema costatum 72 h	LC50 5.74 - 6.44 mg/L Pimephales promelas 96 h LC50 = 1.6 mg/L Oncorhynchus mykiss 96 h LC50 0.91 - 2.82 mg/L Oncorhynchus mykiss 96 h LC50 = 1.99 mg/L Pimephales promelas 96 h LC50 = 31.0265 mg/L Lepomis macrochirus 96 h	EC50 = 0.93 mg/L 30 min EC50 > 20 mg/L 18 h	LC50= 2.16 mg/L 48 h EC50= 1.96 mg/L 48 h EC50 1.09 - 3.4 mg/L 48 h	3.3
Hexylene glycol	no data available	LC50 10500 - 11000 mg/L Pimephales promelas 96 h LC50 = 10000 mg/L Lepomis macrochirus 96 h LC50 = 8690 mg/L Pimephales promelas 96 h LC50 = 10700 mg/L Pimephales promelas 96 h	EC50 = 3038 mg/L 5 min	EC50 2700 - 3700 mg/L 48 h	<0.14
Bromacil	no data available	LC50 180 - 192 mg/L Pimephales promelas 96 h LC50 = 32 mg/L Lepomis macrochirus 96 h LC50 30 - 40 mg/L Oncorhynchus mykiss 96 h	EC50 = 6.65 mg/L 5 min	no data available	2.11
Poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched, phosphates	no data available	no data available	no data available	no data available	N/A
Pseudocumene	no data available	LC50 7.19 - 8.28 mg/L Pimephales promelas 96 h	no data available	EC50= 6.14 mg/L 48 h	3.63
Cumene	EC50 = 2.6 mg/L Pseudokirchneriella subcapitata 72 h	LC50 6.04 - 6.61 mg/L Pimephales promelas 96 h LC50 = 4.8 mg/L Oncorhynchus mykiss 96 h LC50 = 2.7 mg/L Oncorhynchus mykiss 96 h LC50 = 5.1 mg/L Poecilia reticulata 96 h	EC50 = 0.89 mg/L 5 min EC50 = 1.10 mg/L 15 min EC50 = 1.48 mg/L 30 min EC50 = 172 mg/L 24 h	EC50= 0.6 mg/L 48 h EC50 7.9 - 14.1 mg/L 48 h	3.55
1,3,5-Trimethylbenzene	no data available	LC50 = 3.48 mg/L Pimephales promelas 96 h	no data available	EC50= 50 mg/L 24 h	N/A
Benzenesulfonic acid, dodecyl-, branched, calcium salt	no data available	no data available	no data available	no data available	N/A

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available.

**Mobility**

No information available.

## 13. DISPOSAL CONSIDERATIONS

**Product Disposal**

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide 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.

**Container Disposal**

Empty containers should be taken for local recycling, recovery, or waste disposal. Do not re-use empty containers.

## 14. TRANSPORT INFORMATION

DOT	Not regulated
TDG	Not regulated
ICAO	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated

## 15. REGULATORY INFORMATION

## Inventories

TSCA	Complies
DSL	Complies

## U.S. Federal Regulations

## SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Naphthalene	91-20-3	5-10	0.1
Bromacil	314-40-9	1-5	1.0
Pseudocumene	95-63-6	1-5	1.0
Cumene	98-82-8	1-5	1.0

## SARA 311/312 Hazardous Categorization

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	Yes	Yes	No	No

## CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
Naphtha (petroleum), heavy aromatic	Not applicable	Not applicable
Naphthalene	100 lb	Not applicable
Hexylene glycol	Not applicable	Not applicable
Bromacil	Not applicable	Not applicable
Poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched, phosphates	Not applicable	Not applicable
Pseudocumene	Not applicable	Not applicable
Cumene	5000 lb	Not applicable
1,3,5-Trimethylbenzene	Not applicable	Not applicable
Benzenesulfonic acid, dodecyl-, branched, calcium salt	Not applicable	Not applicable

## 16. OTHER INFORMATION

Prepared By	Rachael Mohochi
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Reason for Revision	No information available.
Glossary	No information available.
List of References.	No information available.

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