



SAFETY DATA SHEET

Product: MARC 60 VEG-A-KILL PLUS 2,4-D

Form R04132

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER AND NAME: **MARC 60 VEG-A-KILL PLUS 2,4-D**

SDS DATE: 10/23/2019

SUPPLIER: Mid-American Research Chemical Corp.

ADDRESS: P. O. Box 927 Columbus, NE 68602-0927

PHONE: 402-564-7104 FAX: 402-563-1290

EMERGENCY PHONE: InfoTrac 1-800-535-5053

E-MAIL: marc1@marc1.com WEBSITE: www.marc1.com

RECOMMENDED USE: Herbicide

PREPARED BY: MARC

SECTION 2: HAZARDS IDENTIFICATION

CLASSIFICATION: Flam. Liq. 4, Acute Tox. 4 (Dermal), Acute Tox. 4 (Inhalation:dust,mist), Skin Irrit. 2, Eye Irrit. 2, Carc. 1B, STOT SE 3, STOT RE 2, Asp. Tox. 1.

SIGNAL WORD AND HAZARD STATEMENTS - DANGER: Combustible liquid.

May be fatal if swallowed and enters airways Harmful in contact with skin or if inhaled Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. May cause cancer. May cause damage to organs (liver, thymus, bone marrow) through prolonged or repeated exposure. **PRECAUTIONARY STATEMENTS:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from open flames, sparks, heat. - No smoking. Do not breathe mist, spray, vapors Avoid breathing mist, spray, vapors Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective clothing, eye protection, protective gloves. If swallowed: Immediately call a POISON CENTER, a doctor. If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a doctor, a POISON CENTER if you feel unwell. Get medical advice/attention if you feel unwell. Specific treatment (see First aid measures on this label) Specific treatment (see First aid measures on this label) Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention If eye irritation persists: Get medical advice/attention Take off contaminated clothing and wash it before reuse. In case of fire: Use dry extinguishing powder, carbon dioxide (CO₂), alcohol resistant foam to extinguish. Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/container to comply with local/regional/national regulations.



SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT</u>	<u>CAS NO.</u>	<u>% BY WEIGHT*</u>
Petroleum Solvent	68476-34-6	75 - 90
Glycol Ether EB	111-76-2	10 - 20
Isooctyl (2-ethylhexyl) Ester of 2, 4-D	1928-43-4	0.98 - 1.20
Bromacil	314-40-9	0.93 - 1.03
Naphthalene	91-20-3	0 - 0.25

*The exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4: FIRST AID MEASURES

First-aid measures general: If you feel unwell, seek medical advice (show the label where possible). IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Consult a doctor/medical service.

First-aid measures after eye contact: 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.

First-aid measures after ingestion: Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

Symptoms/effects: May cause cancer. May be fatal if swallowed and enters airways. Harmful if inhaled. Harmful in contact with skin. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. May cause damage to organs (liver, thymus, bone marrow) through prolonged or repeated exposure.



SAFETY DATA SHEET

Product: MARC 60 VEG-A-KILL PLUS 2,4-D

Form R04132

Symptoms/effects after inhalation: Harmful if inhaled. May cause drowsiness or dizziness.
Symptoms/effects after skin contact: Causes skin irritation. Harmful in contact with skin.
Symptoms/effects after eye contact: Causes serious eye irritation.
Symptoms/effects after ingestion: May be fatal if swallowed and enters airways.

SECTION 5: FIRE FIGHTING MEASURES

Suitable extinguishing media: Dry chemical powder. Carbon dioxide. Alcohol-resistant foam. **Unsuitable extinguishing media:** Solid water jet ineffective as extinguishing medium. **Fire hazard:** Combustible liquid. **Explosion hazard:** Explosion risk in case of fire. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. May be ignited by sparks. May form flammable/explosive vapor-air mixture. **Reactivity:** On burning: release of toxic and corrosive gases/vapors (nitrous vapors, sulfur oxides, carbon monoxide - carbon dioxide). If the product is involved in a fire, it can release toxic chlorine gases. Reacts violently with (strong) oxidizers. **Firefighting instructions:** Exercise caution when fighting any chemical fire. In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. Take account of environmentally hazardous firefighting water. **Protection during firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: ACCIDENTAL RELEASE MEASURES

General measures: Remove ignition sources. Use special care to avoid static electric charges. **For non-emergency personnel--** Protective equipment.: Protective goggles. Gloves. Protective clothing. Emergency procedures: Evacuate unnecessary personnel. No naked flames or sparks. **For emergency responders--** Protective equipment: Equip cleanup crew with proper protection. Emergency procedures: Stop leak if safe to do so. Stop release. Ventilate area. **Environmental Precautions:** Avoid release to the environment. Prevent entry into sewers and public water. **For containment:** Contain released substance, pump into suitable containers. **Methods for cleaning up:** This material and its container must be disposed of in a safe way, and as per local legislation. Take up liquid spill into inert absorbent material, e.g.: sand/earth. Clean contaminated surfaces with a soap solution.

SECTION 7: HANDLING AND STORAGE

Additional hazards when processed: Handle empty containers with care because residual vapors are flammable. Keep away from open flame, sparks, excessive heat. - No smoking.
Precautions for safe handling: Comply with the legal requirements. Do not handle until all safety precautions have been read and understood. Do not breathe vapors. Use personal protective equipment as required. Do not eat, drink or smoke when using this product. Do not get in eyes, on skin, or on clothing. Handle and open the container with care. Keep away from sources of ignition - No smoking. Take precautions against electrostatic charges. Obtain special instructions before use. Remove contaminated clothing immediately.
Hygiene measures: Wash thoroughly after handling. Wash contaminated clothing before reuse.
Technical measures: Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.
Storage conditions: Keep container tightly closed. Keep only in the original container in a cool, well ventilated place away from: sparks, open flames, excessive heat.
Incompatible products: Oxidizing agent. **Incompatible materials:** Sources of ignition.
Heat-ignition: KEEP SUBSTANCE AWAY FROM ignition sources and heat sources.
Information on mixed storage: KEEP SUBSTANCE AWAY FROM oxidizing agents.
Storage area: Store away from heat. Store in a cool area. Store in a dry area. Store in a well-ventilated place. Keep locked up.
Special rules on packaging: Keep only in original container. meet the legal requirements.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Bromacil (314-40-9)		
ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ (Bromacil; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
naphthalene (91-20-3)		
ACGIH	ACGIH TWA (ppm)	10 ppm



SAFETY DATA SHEET

Product: MARC 60 VEG-A-KILL PLUS 2,4-D

Form R04132

ACGIH	Remark (ACGIH)	Hematologic eff; URT & eye irr; Skin; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure)
OSHA	OSHA PEL (TWA) (mg/m ³)	50 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	10 ppm
Glycol Ether EB (111-76-2)		
ACGIH	ACGIH TWA (ppm)	20 ppm
ACGIH	Remark (ACGIH)	Eye & URT irr
OSHA	OSHA PEL (TWA) (mg/m ³)	240 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	50 ppm
2-ethylhexyl 2,4-dichlorophenoxyacetate (1928-43-4)		
Not applicable		
Petroleum Solvent (68476-34-6)		
Not applicable		

Appropriate engineering controls: Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. **Personal Protective equipment:** Use appropriate personal protective equipment when risk assessment indicates this is necessary. Gloves. Protective clothing. Protective goggles/Safety glasses.



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Liquid.
COLOR:	Red.
ODOR:	Solvent.
ODOR THRESHOLD:	Not available.
pH:	Not applicable.
MELTING/FREEZING POINT:	Not available.
BOILING POINT:	Not available.
DECOMPOSITION TEMPERATURE:	Not available.
EXPLOSIVE LIMIT RANGES:	Not available.
EXPLOSIVE PROPERTIES:	Not available.
FLASH POINT:	145°F
EVAPORATION RATE:	Not available.
FLAMMABILITY (solid, gas):	Not available.
VAPOR PRESSURE (mmHg):	Not available.
VAPOR DENSITY (AIR = 1):	Not available.
RELATIVE DENSITY:	0.875
SPECIFIC GRAVITY (H2O = 1):	Not available.



SAFETY DATA SHEET

Product: MARC 60 VEG-A-KILL PLUS 2,4-D

Form R04132

SOLUBILITY IN WATER: Insoluble
PARTITION COEFFICIENT: n-octanol/water: Not available.
AUTOIGNITION TEMPERATURE: Not available.
VISCOSITY, KINEMATIC: <20 cSt
VOC CONTENT: >90%

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: On burning: release of toxic and corrosive gases/vapors (nitrous vapors, sulfur oxides, carbon monoxide, carbon dioxide). If the product is involved in a fire, it can release toxic chlorine gases. Reacts violently with (strong) oxidizers.

CHEMICAL STABILITY: Combustible liquid. Stable under normal conditions. Risk of explosion if heated under confinement. Heating may cause a fire or explosion.

CONDITIONS TO AVOID: High temperatures, open flames, sparks, welding.

INCOMPATIBILITY (MATERIALS TO AVOID): Acids, strong oxidizers. Vapors may ignite at temperatures exceeding flash point.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: CO, CO₂.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID (POLYMERIZATION): N/A

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity-- Dermal: Harmful in contact with skin. Inhalation: Dust, mist: Harmful if inhaled.

Bromacil (314-40-9)	
LD50 oral rat	5200 mg/kg (Rat)
LD50 dermal rat	> 2500 mg/kg (Rat)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	> 4.8 mg/l/4h (Rat)
ATE CLP (oral)	5200.000 mg/kg body weight
naphthalene (91-20-3)	
LD50 oral rat	> 1100 mg/kg (Rat)
LD50 dermal rat	> 2500 mg/kg (Rat)
LD50 dermal rabbit	> 20000 mg/kg (Rabbit)
ATE CLP (oral)	500.000 mg/kg body weight
Glycol Ether EB (111-76-2)	
LD50 oral rat	1300 mg/kg
LD50 dermal rat	> 2000 mg/kg
ATE CLP (oral)	1300.000 mg/kg body weight
ATE CLP (dermal)	1100.000 mg/kg body weight
ATE CLP (dust, mist)	1.500 mg/l/4h
2-ethylhexyl 2,4-dichlorophenoxyacetate (1928-43-4)	
LD50 oral rat	896 mg/kg (Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	> 5.4 mg/l/4h (Rat)
Petroleum Solvent (68476-34-6)	
LD50 oral rat	> 7600 mg/kg
LD50 dermal rat	> 4300 mg/kg
LC50 inhalation rat (mg/l)	4.1 mg/l

Skin corrosion/irritation: Causes skin irritation. Serious eye damage/irritation: Causes serious eye irritation. Respiratory or skin sensitization: Not classified. Germ cell mutagenicity: Not classified. Carcinogenicity: May cause cancer.

naphthalene (91-20-3)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	3 - Reasonably anticipated to be Human Carcinogen



SAFETY DATA SHEET

Product: MARC 60 VEG-A-KILL PLUS 2,4-D

Form R04132

Glycol Ether EB (111-76-2)	
IARC group	3 - Not classifiable

Reproductive toxicity: Not classified. Specific target organ toxicity – single exposure: May cause drowsiness or dizziness. Specific target organ toxicity – repeated exposure: May cause damage to organs (liver, thymus, bone marrow) through prolonged or repeated exposure.

Glycol Ether EB (111-76-2)	
NOAEL (oral, rat, 90 days)	see comments
NOAEL (dermal, rat/rabbit, 90 days)	see comments

Aspiration hazard: May be fatal if swallowed and enters airways. Symptoms/effects after inhalation: Harmful if inhaled. May cause drowsiness or dizziness. Symptoms/effects after skin contact: Causes skin irritation. Harmful in contact with skin. Symptoms/effects after eye contact: Causes serious eye irritation. Symptoms/effects after ingestion: May be fatal if swallowed and enters airways. Likely routes of exposure: Skin and eye contact, ingestion, inhalation.

SECTION 12: ECOLOGICAL INFORMATION

TOXICITY--

Bromacil (314-40-9): LC50 fish 1 75 mg/l (LC50; 48 h)

Naphthalene (91-20-3):

EC50 Daphnia 1 2.16 mg/l (EC50; 48 h; Daphnia magna)

LC50 fish 2 0.11 mg/l (LC50; 96 h; Oncorhynchus mykiss)

Threshold limit algae 1 0.4 mg/l (EC50; 72 h; Skeletonema costatum)

Glycol Ether EB (111-76-2):

LC50 fish 1 1474 mg/l Oncorhynchus mykiss

EC50 Daphnia 1 100 mg/l Water flea

ErC50 (algae) 1840 mg/l Pseudokirchneriella subcapitata

NOEC chronic fish > 100 mg/l

NOEC chronic crustacea 100 mg/l daphnid

PERSISTENCE AND DEGRADABILITY--

Bromacil (314-40-9)

Persistence and degradability Not readily biodegradable in water. Non degradable in the soil. Photodegradation in the air.

Naphthalene (91-20-3)

Persistence and degradability Readily biodegradable in water. Forming sediments in water. Biodegradable in the soil. Adsorbs into the soil.

Photolysis in the air.

Biochemical oxygen demand (BOD) 0 g O₂/g substance

Chemical oxygen demand (COD) 0.22 g O₂/g substance

ThOD 2.99 g O₂/g substance

BIOACCUMULATIVE POTENTIAL--

Bromacil (314-40-9)

BCF fish 1 2.8 - 26.5 (BCF; 672 h; Leuciscus idus)

BCF fish 2 4.25 (BCF; 388 h; Pimephales promelas)

Log Pow 2.11

Bioaccumulative potential Low potential for bioaccumulation (BCF < 500).

Naphthalene (91-20-3)

BCF fish 1 23 - 168 (BCF; 8 weeks; Cyprinus carpio)

Log Pow 3.3 (Experimental value)

Bioaccumulative potential Low potential for bioaccumulation (BCF < 500).

2-Ethylhexyl 2,4-Dichlorophenoxyacetate (1928-43-4)

Log Pow 5.78 (Experimental value)



SAFETY DATA SHEET

Product: MARC 60 VEG-A-KILL PLUS 2,4-D

Form R04132

SECTION 13: DISPOSAL CONSIDERATIONS

Product/Packaging Disposal Recommendations: Dispose of contents/container to comply with local/regional/national regulations.

Additional Information: Clean up even minor leaks or spills if possible without unnecessary risk. Handle empty containers with care because residual vapors are flammable.

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (for ground/non-bulk containers)

CONTAINER SIZES(S): All

PROPER SHIPPING NAME: WEED KILLING COMPOUND, LIQUID

HAZARD CLASS: NONE

SECTION 15: REGULATORY INFORMATION

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372: bromacil, naphthalene, 2-ethylhexyl 2,4-dichlorophenoxyacetate, glycol ether EB.

Subject to reporting requirements of United States SARA Section 313: naphthalene.

Subject to reporting requirements of United States SARA Section 313: CERCLA RQ 100 lb-- 2-ethylhexyl 2,4-dichlorophenoxyacetate.

This chemical is a pesticide product registered by the 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 and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label: Caution: Harmful if absorbed through the skin. Avoid contact with skin, eyes or clothing.

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer and/or reproductive toxicity.

SECTION 16: OTHER INFORMATION

HMIS/NFPA Ratings: Health = 2, Flammability = 2, Reactivity = 0.

REVISION DATE: 10/23/2019

DISCLAIMER: While the information contained herein is believed to be correct, no warranties are made with respect thereto, and all liability from reliance thereon is disclaimed.