

**SECTION 1: Product and company identification**

Trade name : Barren  
Use of the substance/mixture : Herbicide  
Industrial use  
Product code : 0320  
Company : Total Solutions  
P.O. Box 245013  
Milwaukee, WI 53224 - USA  
T (414) 354-6417  
Emergency number : Chemtrec: (800) 424-9300

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

**Classification (GHS-US)**

Flam. Liq. 4 H227  
Skin Irrit. 2 H315  
Eye Irrit. 2A H319  
Carc. 1B H350  
STOT RE 2 H373  
Asp. Tox. 1 H304

Full text of H-phrases: see section 16

**2.2. Label elements**

**GHS-US labeling**

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : Combustible liquid  
May be fatal if swallowed and enters airways  
Causes skin irritation  
Causes serious eye irritation  
May cause cancer  
May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS-US) : 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 vapors, mist, fume  
Wash thoroughly after handling  
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 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  
Get medical advice/attention if you feel unwell  
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 before reuse  
In case of fire: Use dry extinguishing powder, carbon dioxide (CO<sub>2</sub>), alcohol resistant foam to extinguish  
Store in a well-ventilated place. Keep cool  
Store locked up  
Dispose of contents/container to comply with local/regional/national regulations

**2.3. Other hazards**

No additional information available

**2.4. Unknown acute toxicity (GHS US)**

Not applicable

**SECTION 3: Composition/information on ingredients**

**3.1. Substance**

Not applicable

Full text of H-phrases: see section 16

**3.2. Mixture**

Name	Product identifier	%	Classification (GHS-US)
Fuel oil, No 4, Gasoil - unspecified, [A distillate oil having a minimum viscosity of 45 SUS at 37,7 °C (100 °F) to a maximum of 125 SUS at 37,7 °C (100 °F).]	(CAS No) 68476-31-3	60 - 100	Asp. Tox. 1, H304
Glycol Ether EB	(CAS No) 111-76-2	10 - 30	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT RE 2, H373 Asp. Tox. 1, H304
2-ethylhexyl 2,4-dichlorophenoxyacetate	(CAS No) 1928-43-4	0.5 - 1.5	Acute Tox. 4 (Oral), H302
bromacil	(CAS No) 314-40-9	0.1 - 1	Eye Irrit. 2A, H319
naphthalene	(CAS No) 91-20-3	0 - 0.25	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Carc. 1B, H350 Aquatic Acute 1, H400

**SECTION 4: First aid measures**

**4.1. Description of 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.

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

- Symptoms/injuries : If you feel unwell, seek medical advice. May cause cancer. May cause damage to organs through prolonged or repeated exposure.
- Symptoms/injuries after inhalation : Harmful if inhaled. EXPOSURE TO HIGH CONCENTRATIONS: Central nervous system depression. Irritation of the respiratory tract. Headache. May cause drowsiness or dizziness.
- Symptoms/injuries after skin contact : Causes skin irritation.
- Symptoms/injuries after eye contact : Causes serious eye irritation.
- Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways.

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

No additional information available

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

- Suitable extinguishing media : Dry chemical powder. Carbon dioxide. Alcohol-resistant foam.
- Unsuitable extinguishing media : Do not use a heavy water stream.

**5.2. Special hazards arising from the substance or mixture**

- 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/vapours (nitrous vapours, sulphur oxides, carbon monoxide - carbon dioxide). If the product is involved in a fire, it can release toxic chlorine gases. Reacts violently with (strong) oxidizers.

**5.3. Advice for firefighters**

- 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**

**6.1. Personal precautions, protective equipment and emergency procedures**

- General measures : Remove ignition sources. Use special care to avoid static electric charges.

**6.1.1. For non-emergency personnel**

- Protective equipment : Protective goggles. Gloves. Protective clothing.
- Emergency procedures : Evacuate unnecessary personnel. No naked flames or sparks.

**6.1.2. For emergency responders**

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Stop leak if safe to do so. Stop release. Ventilate area.

**6.2. Environmental precautions**

Avoid release to the environment. Prevent entry to sewers and public waters.

**6.3. Methods and material for containment and cleaning up**

- 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.

**6.4. Reference to other sections**

No additional information available

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

- 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.

**7.2. Conditions for safe storage, including any incompatibilities**

- Technical measures : Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.
- Storage conditions : Keep only in the original container in a cool, well ventilated place away from: sparks, open flames, excessive heat. Keep container tightly closed.
- Incompatible products : Oxidizing agent.
- Incompatible materials : Sources of ignition.
- Heat-ignition : KEEP SUBSTANCE AWAY FROM: ignition sources. heat sources.
- Prohibitions 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**

**8.1. Control parameters**

<b>bromacil (314-40-9)</b>		
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
<b>naphthalene (91-20-3)</b>		
ACGIH	ACGIH TWA (ppm)	10 ppm

<b>bromacil (314-40-9)</b>		
ACGIH	ACGIH STEL (ppm)	10 ppm

**8.2. Exposure controls**

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**

**9.1. Information on basic physical and chemical properties**

Physical state	: Liquid
Appearance	: Clear, red colored liquid.
Odor	: Fuel oil odor
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 145 °F
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: No data available
Explosive properties	: Heating may cause a fire or explosion.
Oxidizing properties	: No data available
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Specific gravity / density	: 0.875 g/ml
Solubility	: Insoluble in water.
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: < 20 cSt
Viscosity, dynamic	: No data available
VOC content	: > 90 %

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

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

**10.2. Chemical stability**

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

**10.3. Possibility of hazardous reactions**

Refer to section 10.1 on Reactivity.

**10.4. Conditions to avoid**

Refer to Section 10 on Incompatible Materials. Open flame. Overheating. Sparks.

**10.5. Incompatible materials**

Oxidizing agents.

**10.6. Hazardous decomposition products**

Thermal decomposition produces: CO, CO2, Oxides of nitrogen and other potentially toxic fumes.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

Acute toxicity : Not classified

<b>bromacil (314-40-9)</b>	
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

<b>naphthalene (91-20-3)</b>	
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

<b>Glycol Ether EB (111-76-2)</b>	
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

<b>2-ethylhexyl 2,4-dichlorophenoxyacetate (1928-43-4)</b>	
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)

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.

<b>naphthalene (91-20-3)</b>	
IARC group	2B - Possibly Carcinogenic to Humans
National Toxicology Program (NTP) Status	3 - Reasonably anticipated to be Human Carcinogen

<b>Glycol Ether EB (111-76-2)</b>	
IARC group	3 - Not Classifiable

Reproductive toxicity : Not classified  
 Specific target organ toxicity (single exposure) : Not classified  
 Specific target organ toxicity (repeated exposure) : May cause damage to organs through prolonged or repeated exposure.

<b>Glycol Ether EB (111-76-2)</b>	
LOAEL (oral, rat, 90 days)	69 mg/kg bodyweight/day Target organ: liver
NOAEL (dermal, rat/rabbit, 90 days)	150 mg/kg bodyweight/day

Aspiration hazard : May be fatal if swallowed and enters airways.  
 Symptoms/injuries after inhalation : Harmful if inhaled. EXPOSURE TO HIGH CONCENTRATIONS: Central nervous system depression. Irritation of the respiratory tract. Headache. May cause drowsiness or dizziness.  
 Symptoms/injuries after skin contact : Causes skin irritation.  
 Symptoms/injuries after eye contact : Causes serious eye irritation.  
 Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways.  
 Likely routes of exposure : Skin and eyes contact.; Ingestion.; Inhalation

**SECTION 12: Ecological information**

**12.1. Toxicity**

bromacil (314-40-9)	
LC50 fish 1	75 mg/l 48 h; Salmo gairdneri (Oncorhynchus mykiss)
LC50 fish 2	71 mg/l (48 h; Leuciscus idus)
Threshold limit other aquatic organisms 1	1 mg/l (Pimephales promelas; Chronic)
naphthalene (91-20-3)	
LC50 fish 1	1.99 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 1	2.16 mg/l (48 h; Daphnia magna)
EC50 other aquatic organisms 1	2.96 mg/l (4 h; Selenastrum capricornutum)
LC50 fish 2	0.11 mg/l (96 h; Oncorhynchus mykiss)
TLM fish 1	150 mg/l (96 h; Lepomis macrochirus; Cool water)
TLM fish 2	1.24 ppm (96 h; Oncorhynchus gorbuscha)
Threshold limit algae 1	0.4 mg/l (72 h; Skeletonema costatum; Growth rate)
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
2-ethylhexyl 2,4-dichlorophenoxyacetate (1928-43-4)	
LC50 fish 1	7.2 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	5.2 mg/l (48 h; Daphnia magna; Pure water)
EC50 other aquatic organisms 1	> 30 mg/l (120 h; Selenastrum capricornutum; Growth rate)
EC50 Daphnia 2	1.35 mg/l (504 h)
Threshold limit algae 1	15 mg/l (120 h; Selenastrum capricornutum; Growth rate)
Threshold limit algae 2	0.1875 mg/l (120 h; Skeletonema costatum; Cell numbers)

**12.2. 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 O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	0.22 g O <sub>2</sub> /g substance
ThOD	2.99 g O <sub>2</sub> /g substance

**12.3. Bioaccumulative potential**

bromacil (314-40-9)	
BCF fish 1	2.8 - 26.5 (672 h; Leuciscus idus; Fresh weight)
BCF fish 2	4.25 (388 h; Pimephales promelas; Fresh weight)
Log Pow	2.11
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
naphthalene (91-20-3)	
BCF fish 1	23 - 168 (8 weeks; Cyprinus carpio)
BCF fish 2	40 - 300 (672 h; Oncorhynchus mykiss)
BCF other aquatic organisms 1	331 (360 h; Ostreidae)
BCF other aquatic organisms 2	130 (24 h; Chlorella sp.)
Log Pow	3.30 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
2-ethylhexyl 2,4-dichlorophenoxyacetate (1928-43-4)	
Log Pow	5.78 (Experimental value)

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Waste 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**

**Department of Transportation (DOT)**

UN-No.(DOT) : NA1993  
 Proper Shipping Name (DOT) : Combustible liquid, n.o.s.  
 Transport hazard class(es) (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120  
 Packing group (DOT) : III - Minor Danger  
 DOT Packaging Non Bulk (49 CFR 173.xxx) : 203  
 DOT Packaging Bulk (49 CFR 173.xxx) : 241  
 DOT Symbols : D - Proper shipping name for domestic use only, or to and from Canada,G - Identifies PSN requiring a technical name  
 DOT Special Provisions (49 CFR 172.102) : IB3,T1,T4,TP1  
 DOT Packaging Exceptions (49 CFR 173.xxx) : 150  
 DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L  
 DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L  
 DOT Vessel Stowage Location : A

**Additional information**

Other information : When transported by ground in non-bulk containers, this product utilizes the exception found under 49 CFR 173.150.

**ADR**

No additional information available

**Transport by sea**

No additional information available

**Air transport**

No additional information available

**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	CAS No 314-40-9	0.1 - 1
naphthalene	CAS No 91-20-3	0 - 0.25
2-ethylhexyl 2,4-dichlorophenoxyacetate	CAS No 1928-43-4	0.5 - 1.5
Glycol Ether EB	CAS No 111-76-2	10 - 30

**bromacil (314-40-9)**

Listed on SARA Section 313 (Specific toxic chemical listings)

**naphthalene (91-20-3)**

Listed on SARA Section 313 (Specific toxic chemical listings)

RQ (Reportable quantity, section 304 of EPA's List of Lists) 100 lb

# Barren

## Safety Data Sheet

**2-ethylhexyl 2,4-dichlorophenoxyacetate (1928-43-4)**

Listed on SARA Section 313 (Specific toxic chemical listings)

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labelling 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

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

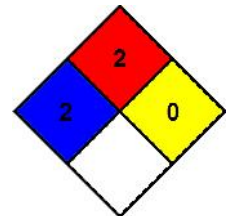
Full text of H-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 1B	Carcinogenicity Category 1B
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 4	Flammable liquids Category 4
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H227	Combustible liquid
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H319	Causes serious eye irritation
H350	May cause cancer
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 2 - Must be moderately heated or exposed to relatively high temperature before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



Prepared by: Technical Department

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. No warranty is expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Our company assumes no responsibility for personal injury or property damage to the vendee, users or third parties caused by the material. Such vendees or users assume all risks associated with the use of this material.*