

MATERIAL SAFETY DATA SHEET

State Chemical Division - State Industrial Products
3100 Hamilton Avenue, Cleveland, OH 44114 (216) 861-7114

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

| | | | |
|--------------------------|----------------------------------|------------------------------------|--------------------------|
| Product Name: | FORMULA 190-X | 24 Hour Emergency CHEMTREC Number: | 800-424-9300 |
| Product Description: | A non-selective weed killer | MSDS Number: | 117118 |
| EPA Registration Number: | 10807-204-70799 or 10088-2-70799 | EPA Establishment Number: | 10807-TX-1 or 10088-WI-1 |

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Active Ingredients | CAS Number | Weight | ACGIH | OSHA |
|--|------------|--------------|----------------------|----------------------|
| Isosetyl (Ester of 2,4-Dichlorophenoxyacetic Acid) | 1928-13-4 | 1.09 - 1.10% | 10 mg/m ³ | 10 mg/m ³ |
| Bromacil | 311-10-9 | 0.61% | 10 mg/m ³ | 10 mg/m ³ |

| Hazardous Ingredients | CAS Number | Weight | ACGIH | OSHA |
|-----------------------|------------|--------|---------|---------|
| Petroleum Distillates | 68476-30-2 | < 97% | 500 ppm | 500 ppm |
| 2-Butoxyethanol | 111-76-2 | < 4.0% | 25 ppm | 25 ppm |

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Combustible liquid. May cause eye, skin and respiratory irritation.

POTENTIAL HEALTH EFFECTS

Eye Contact: May cause eye irritation.
Skin Contact: Prolonged or repeated contact may cause defatting of skin, irritation and dermatitis. Harmful if absorbed through skin. Contains 2-Butoxyethanol which may be absorbed through skin.
Inhalation: High vapor or spray mist concentrations may produce nose, throat and respiratory irritation. May cause central nervous system depression.
Ingestion: May cause local irritation, burning sensation in mouth, esophagus, stomach and intestine; vomiting.

4. FIRST AID MEASURES

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

IF ON SKIN OR CLOTHING: 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.

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

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

5. FIRE FIGHTING MEASURES

Flashpoint(Method): Approximately 140°F (Tag Closed Cup).
Lower Explosive Limit(LEL): NA Upper Explosive Limit(UEL): NA Autoignition Temperature: NA
Flammable Properties: Combustible liquid.
Unusual Fire & Explosion Hazards: Vapors are heavier than air and may travel a considerable distance from ignition source and flashback. Containers involved in a fire may become hot enough to rupture and/or explode. Avoid contact with material leaking from drums. Combustible liquid; keep away from ignition sources. Avoid dense accumulation of vapors.
Extinguishing Media: Carbon dioxide, dry chemical, foam, water fog.
Fire Fighting Instructions: Self-contained breathing apparatus with full facepiece and protective clothing. Do not inhale smoke, fumes, vapors or combustion products.

6. ACCIDENTAL RELEASE MEASURES

Eliminate all ignition sources. Wear suitable protective clothing. Do not contaminate sewers, ground waters or surface waters. Product is toxic to aquatic invertebrates. Soak up with an inert absorbent and transfer to proper container. Dispose of according to Federal, State and Local Regulations.

7. HANDLING AND STORAGE

Handling: Keep out of reach of children. Follow all label cautions and directions. Keep away from heat, ignition sources and strong oxidizers. Do not contaminate water, other pesticides, fertilizer, feed or food by storage. Do not contaminate waterways by cleaning of equipment. Apply in areas only specified on label.
Storage: Store product in original, labeled containers only. Keep container upright and tightly closed when not in use. Store in a cool, dry area away from ignition sources. Store above 40°F to avoid product separation. Do not reuse empty containers. Avoid all skin and eye contact. Do not allow contact with desirable vegetation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Ventilation is not normally required as this product is intended for outdoor use. Reduce all mist with local exhaust if necessary.
Personal Protective Equipment:
Respiratory: If personal exposure cannot be controlled below applicable limits by ventilation, wear a NIOSH approved, properly fitted organic vapor/particulate respirator.
Eye: Safety glasses or goggles with unperforated sideshields are recommended.
Skin: Wear chemically impervious gloves.
Other: An emergency eyewash station or source of clean potable water should be available in case of accidental eye contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|------------------------------|---------------|-------------------|-------------|
| Color and Appearance: | Amber to Red. | Odor: | Petroleum. |
| Physical State: | Liquid. | pH: | NA |
| Solubility in Water: | Insoluble. | Specific Gravity: | 0.94 - 0.90 |
| Evaporation Rate (BUAC - 1): | NA | VOC Content: | < 3% |

10. STABILITY AND REACTIVITY

| | |
|-----------------------------------|--|
| Stability: | Stable. |
| Hazardous Polymerization: | Will not occur. |
| Incompatibility: | Strong oxidizing agents. |
| Hazardous Decomposition Products: | Carbon dioxide, carbon monoxide, hydrogen chloride, hydrogen bromide, unidentified organics. |
| Conditions to Avoid: | Heat, sparks, open flames or other sources of ignition. |

11. TOXICOLOGICAL INFORMATION

IARC / NTP / OSHA: This product contains no ingredient at 0.1% or greater that is listed as a human carcinogen.

| Ingredients | CAS Number | LD50 | LC50 |
|--|------------|-----------------------|---------------------------|
| Isocetyl (Ester of 2,4-Dichlorophenoxyacetic Acid) | 1928-43-4 | NE | NE |
| Bromacil | 314-40-9 | 5200 mg/kg (oral rat) | > 4.8 mg/l air/4 hr (rat) |
| Petroleum Distillates | 68476-30-2 | 15.7 g/kg (oral rat) | NA |
| 2-Butoxyethanol | 111-76-2 | 1480 mg/kg (oral rat) | 700 ppm/7 hr (mouse) |

12. ECOLOGICAL INFORMATION

Toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates or non-target plants.

13. DISPOSAL CONSIDERATIONS

Product Disposal: Pesticide wastes are toxic. Do not contaminate waterways by cleaning of equipment or by disposal of wastes. Untreated effluent should not be discharged where it will drain into lakes, streams or ponds. Wastes resulting from this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with Federal, State and local procedures.

Container Disposal: Do not reuse empty container. Empty container retains product residue. Triple rinse (or equivalent) and offer for recycling, or puncture and dispose of in a sanitary landfill. If allowed by State and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORT INFORMATION

DOT Shipping Data: Combustible liquid. Ships as non-regulated in bulk containers with less than 110 gallon capacity.

Canadian TDG: Not available for sale in Canada.

15. REGULATORY INFORMATION

TSCA: All ingredients in this product are listed or exempt from listing on the TSCA Chemical Inventory.

CEPA: All ingredients in this product are listed or exempt from listing on the Canadian DSL/NDSL.

Proposition 65: This product contains no chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

SARA 313: This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372):

| | | |
|----------------------|-----------|--------------|
| Bromacil | 314-40-9 | 0.61% |
| 2-Butoxyethanol | 111-76-2 | <4.0% |
| 2,4-D Isocetyl Ester | 1928-43-4 | 1.09 - 1.10% |

HMIS RATING: HEALTH - 2 FLAMMABILITY - 2 REACTIVITY - 0 PPE - B

WHMIS RATING: Not available for sale in Canada.

16. OTHER INFORMATION

NA - Not Available or Not Applicable
NE - Not Established

Read and follow all label directions and precautions before using the product. These products are intended for industrial and institutional use only. NOT FOR HOUSEHOLD USE OR RESALE KEEP OUT OF THE REACH OF CHILDREN. While we believe that the data contained herein is factual and the opinions expressed are those of qualified experts, the data are not to be taken as a warranty or representation for which the company assumes legal responsibility. They are offered solely for your consideration, investigation, and verification. Any use of these data and information must be determined by the user to be in accordance with applicable Federal, State, and Local Laws and regulations.

HEALTH AND SAFETY INFORMATION: (216) 861-7114

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Completed By: Regulatory Affairs Specialist