

**1. Product Identification:****Product Name: MAINTAIN® CF 125****SDS Number: RC001**

Manufacturer: Repar Corporation
Telephone: 202-223-1424
Address: P.O. Box 4321
City, State, Zip: Silver Spring, MD 20914
Emergency Phone: 202-223-1424
24 Hour Emergency Phone (CHEMTREC): 1-800-424-9300

Product Use: Plant growth regulator & herbicide

2. Health Hazard(s) Identification:**Warning**

Causes substantial but temporary eye injury.
 Harmful if swallowed.

ROUTES OF EXPOSURE

INHALATION: Breathing of spray mist is expected to be a primary route of exposure and may produce nose, throat and respiratory tract irritation.

SKIN: Dermal contact is expected to be a primary route of exposure and can cause skin irritation. Not considered a sensitizing agent.

EYE CONTACT: May result in corrosion to the eyes or irreversible eye damage.

INGESTION: May cause dulling of senses.

3. Composition/Ingredient Information:**Chemical Names:**

<u>Active Ingredients:</u>	<u>CAS Number</u>	<u>Percentage by Weight</u>
Methyl 2-chloro-9-hydroxy-9H-fluorene-9-carboxylate	2536-31-4	8.8%
Methyl 2,7-dichloro-9-hydroxy-9H-fluorene-9-carboxylate	21634-96-8	1.6%
Methyl 9-hydroxy-9H-fluorene-9-carboxylate	1216-44-0	2.1%

Common Name for Mixture of Active Ingredients:

Chlorfluoreneol-Methyl
 (Chlorfluoreneol Methyl Ester) 37339-61-0

Other Ingredients:

Organic solvents and emulsifiers N/A 87.5%

Molecular Formula for Mixture of Active Ingredients:

$C_{15}H_{12}O_3 + C_{15}H_{11}ClO_3 + C_{15}H_{10}Cl_2O_3$

CAS NUMBER	NAME
2536-31-4	Methyl-2-chloro-9-hydroxyfluorene-(9)-carboxylate

EXPOSURE LIMITS

PEL: Not Established
 TLV: Not Established

COMMON NAME:

Chlorfluoreneol methyl ester

All components of this product that are required to be on the TSCA Inventory are listed on the inventory.

4. First Aid Measures:**If in Eyes:**

- Hold eye open and rinse slowly with a steady, gentle stream of water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or physician for treatment advice.

If Swallowed:

- Immediately call a poison control center or doctor.
- Do not give any liquid to the person.
- Do not induce vomiting unless told to by a poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

If On Skin Or Clothing:

- Take off contaminated clothing.
- Wash skin with plenty of water for 15-20 minutes.
- Call a poison control center or physician for treatment advice.

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 physician for treatment advice.

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

NOTE TO PHYSICIAN: No specific antidote. Treat symptomatically. Contains petroleum distillate. Vomiting may cause aspiration pneumonia. Symptoms of Poisoning: The compound does not cause any definite symptoms that would be diagnostic. Contact with the eyes may cause irritation.

5. Fire Fighting Measures:

FLASH POINT: 143.9° F or 62.1° C (COC)

AUTOIGNITION TEMPERATURE: 454° C

FLAMMABLE LIMITS IN AIR, % BY VOLUME - UPPER: N D
LOWER: N D

EXTINGUISHING MEDIA: In case of fire or smoke, call the fire department. Do not attempt to extinguish the fire without a self contained breathing apparatus (SCBA). Do not let the fire burn. Flood with copious amounts of water. Use water, fog, foam, or CO₂.

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should wear full protective clothing and self-contained breathing apparatus (SCBA) to protect against inhalation of combustion products.

UNUSUAL FIRE AND EXPLOSION HAZARD: Emits toxic fumes of carbon monoxide and carbon dioxide. During fire, hydrochloric acid may be formed.

6. Accidental Release Measures:

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Follow protective measures indicated in the Special Protection Section of this MSDS.

Absorb on inert material. Shovel into containers for proper disposal. Avoid personal contact.

7: Handling and Storage:

Combustible. Do not use or store near heat or open flame.

HANDLING AND STORAGE PRECAUTIONS: Do not get into eyes, on skin, on clothing. Wear goggles or face shield and chemical resistant gloves when handling. Avoid breathing spray mist or fumes. Wash thoroughly with soap and water after handling. Remove and wash contaminated clothing before reuse.

STORAGE: Store in cool, dry area away from heat or open flame.
PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal. Do not reuse empty container. Do not store below 4°C.

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

DIRECTIONS FOR USE: It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Do not apply this product through any irrigation system. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

8. Exposure Control/Personal Protection:

VENTILATION REQUIREMENTS: Sufficient ventilation to minimize exposure to vapor.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- A. Coveralls over long-sleeved shirt and long pants.
- B. Chemical-resistant gloves, such as barrier laminate or viton
- C. Shoes plus socks
- D. Protective eye wear

OTHER CLOTHING AND EQUIPMENT: Emergency shower and eyewash facilities should be in close proximity (ANSI Z358.1). Launder contaminated clothing and wash hands and face after use. Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

RESPIRATORY: NIOSH/MSHA approved respirator, following manufacturer's recommendations, should be used as a precautionary measure where airborne contaminants may occur. (OSHA Standard 29 CFR 1910.134).

EYE: Wear chemical safety goggles (ANSI Z87.1).

GLOVES: Wear chemical resistant gloves.

9. Physical & Chemical Properties:

APPEARANCE: Amber colored liquid

ODOR: Lactone odor

MELTING POINT: NA

BOILING POINT: ND

SOLUBILITY: NA

SPECIFIC GRAVITY (H₂O = 1): 1.01

Water: Emulsifies

Other: Slightly soluble in methanol & acetone

VAPOR PRESSURE @20° C: 4mm

ODOR THRESHOLD (ppm): No data

VAPOR DENSITY (Air = 1): ND

pH: ND

FREEZING POINT: Under -35° C

10. Stability & Reactivity:

STABILITY: Stable

INCOMPATIBILITY: Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic fumes of carbon monoxide, carbon dioxide and possibly hydrochloric acid.

11. Toxicological Information:

Oral LD₅₀ (rat): 3.16 ml/kg or 3196 mg/kg

Dermal LD₅₀ (rabbit): > 4.64 ml/kg or 4686 mg/kg

Inhalation (rats): 68.7 mg/l over 60 minutes gave no mortality

Skin irritation (rabbit): Moderate Irritant

Eye irritation (rabbit): Irritant

Administration of up to 300 ppm (active ingredient) in the diet of beagles for two years produced no detectable adverse effects. Up to 1000 ppm (active ingredient) in the diet of rats for 52 weeks produced no detectable adverse effects. Overexposure to the solvents present in the formulation may cause adverse effects to the central nervous system.

12. Ecological Information:

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment, wash-water, or rinsate.

ENVIRONMENTAL EFFECTS:

LC ₅₀	Trout	2.5-5.5 ppm
LC ₅₀	Goldfish	13.5 ppm
LD ₅₀	Bobwhite quail	2.38 ml/kg

13. Disposal Considerations:

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

WASTE DISPOSAL METHOD: Pesticides 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.

PESTICIDE DISPOSAL: Pesticides wastes are acutely hazardous. Open dumping is prohibited. 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 empty container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. 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.

14: Transport Information:

DOT PROPER SHIPPING NAME: COMBUSTIBLE LIQUID, N.O.S.

This product is not regulated or classified by IATA/ICAO or IMO as hazardous materials or dangerous goods offered for transport based on the product's flash point.

There are no requirements for the labeling, marking, placarding, and packaging of shipments of this product that are offered for transport by rail, air, highway, or ocean vessel.

15: Regulatory Information:

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:

WARNING

Causes Substantial but temporary eye injury.

Harmful if swallowed.

16. Other Information:

OSHA Standard 29 CFR §1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Material Safety Data Sheet available to your employees.

PESTICIDE REGISTRATION INFORMATION:

U.S. EPA Registration No. 69361-6

For additional Non-Emergency health, safety, or environmental information, telephone (202) 223-1424, or write to:

REPAR CORPORATION

P.O. Box 4321 Silver Spring, MD. 20914

Attention: Dr. N. Mandava

CAS = Chemical Abstract Service ND = No relevant information found or not available
PEL = OSHA Permissible Exposure Limit TLV = ACGIH Threshold Limit Value, Current
NA = Not Applicable

* = See Chronic Effects

IMPORTANT: The information presented herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge. NO WARRANTY, OR GUARANTY, EXPRESS OR IMPLIED IS MADE REGARDING PERFORMANCE, STABILITY, OR OTHERWISE. This information is not intended to be all inclusive as to the manner and conditions of use, handling and storage. Other factors may involve other or additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, safe handling and use remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as a recommendation to infringe any existing patents or violate any Federal, State or local laws.

MAINTAIN® is a registered trademark of Repar Corporation.