SAFETY DATA SHEET

1. Product Identification:

Product Name: MAINTAIN® CF 125

Manufacturer:	Repar Corporation
Telephone:	202-223-1424
Address:	P.O. Box 4321
City, State, Zip:	Silver Spring, MD 20914
Emergency Phone:	202-223-1424 (Monday-Friday, 10:00 a.m. – 6:00 p.m.)
24 Hour Emergency Phone (CHEMTREC):	1-800-424-9300
U.S. EPA Registration No.:	69361-6
Product Use:	Plant Growth Regulator

2. Health Hazard(s) Identification:

(As defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200)

Amber Colored Liquid

HEALTH HAZARDS: CAUTION! Causes substantial but temporary eye injury.
PHYSICAL HAZARDS: May release toxic fumes if burned.
ENVIRONMENTAL HAZARDS: Moderately toxic to aquatic organisms.

3. Composition/Ingredient Information:

Active Ingredients:	CAS Number	Percentage by Weight
Methyl 2-chloro-9-hydroxy-9-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-9-fluorene-9-carboxylate	1216-44-0	2.1%
Common Name for Mixture of Active Ingredients:		
Chlorflurenol Methyl Ester (CFM)	37339-61-0	12.5%
Inert Ingredients:		
Organic solvents and emulsifiers	N/A	87.5%

*Inert ingredient identity is confidential business information

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:

EXTINGUISHING MEDIA: Use water, fog, foam, or CO_2 .
SPECIFIC HAZARDS ARISING FROM THE CHEMICAL: Emits toxic fumes of carbon monoxide and carbon dioxide. During fire, hydrochloric acid may be formed.
SPECIAL PROTECTIVE ACTIONS FOR FIRE FIGHTERS: Firefighters should wear full protective clothing and self-contained breathing apparatus (SCBA) to protect against inhalation of combustion products.

6. Accidental Release Measures:

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
PERSONAL PRECAUTIONS: Follow protective measures indicated in Section 8: Exposure Control/Personal Protection for both emergency and non emergency personnel.
ENVIRONMENTAL PRECAUTIONS: Keep spilled liquid away from drains, surface and ground water.
CONTAINMENT AND CLEANUP: Absorb on inert material. Shovel into containers for proper disposal. Avoid personal contact.

7. Handling and Storage:

HANDLING AND STORAGE PRECAUTIONS:
HANDLING: 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. Avoid contact with strong oxidizing agents through handling. Avoid unintentional spilling or release into environment.
STORAGE: Store above 4°C. Store in cool, dry area away from heat or open flame. Store away from strong oxidizing agents

8. Exposure Control/Personal Protection:

EXPOSURE GUIDELINES: Occupational exposure limit (OEL) and biological limit values (BLV) for Chlorflurenol – CAS No.: 37339-61-0 not established. Control banding approach not available.
APPROPRIATE ENGINEERING CONTROLS: Use sufficient ventilation to avoid buildup of vapors
WORK/HYGIENE PRACTICES: 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.

The following personal protective equipment should be used in conjunction with exposure control measures
EYE/FACE PROTECTION: Wear chemical safety goggles (ANSI Z87.1).
SKIN PROTECTION: Coveralls over long-sleeved shirt and pants as well as shoes plus socks should be worn.
RESPIRATORY PROTECTION: 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).
HAND PROTECTION: Wear chemical resistant gloves such as barrier laminate or Viton.

9. Physical & Chemical Properties:

APPEARANCE:	Amber colored liquid
ODOR:	Lactone Odor
ODOR THRESHOLD:	ND
pH:	ND
MELTING POINT:	NA
BOILING POINT:	ND
FLASH POINT:	140.9°F (COC)
EVAPORATION RATE:	ND

FLAMMABILITY (solid, gas):	not flammable (combustible gas)
LOWER FLAMMABILITY LIMIT:	ND
UPPER FLAMMABILITY LIMIT:	ND
VAPOR PRESSURE:	4mmHg (@20°C)
VAPOR DENSITY:	ND
RELATIVE DENSITY (H_2O = 1):	1.01
PARTITION COEFFICIENT (n-octanol/water):	NA
AUTO-IGNITION TEMPERATURE:	849.2°F
DECOMPOSITION TEMPERATURE:	ND
VISCOSITY:	ND

SOLUBILITY:
Water: Emulsifies
Other: Slightly soluble in methanol & and acetone

10. Stability & Reactivity:

REACTIVITY: Unknown
STABILITY: Stable under normal storage conditions.
HAZARDOUS REACTIONS: None known
CONDITIONS TO AVOID: Heat or open flame
INCOMPATIBLE MATERIALS: Strong oxidizing agents
HAZARDOUS DECOMPOSITION PRODUCTS: Toxic fumes of carbon monoxide, carbon dioxide and possibly hydrochloric acid.

11. Toxicological Information:

Toxicological Data for Maintain® CF 125:

Oral LD_{50} (rat):	1,030mg/kg bw
Dermal LD_{50} (rat):	>5050mg/kg bw
Inhalation LC_{50} (rat):	>1.92 mg/L over 4 hours
Skin irritation (rabbit):	Slight irritant
Skin sensitization (guinea pig):	Not a sensitizer to induce allergy
Eye irritation (rabbit):	Acutely irritating
Specific target organ toxicity (STOT):	
STOT-single exposure:	ND
STOT-repeated exposure:	ND

Aspiration hazard: Vomiting due to exposure may cause aspiration pneumonia.
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.
ADVERSE EFFECTS AND SYMPTOMS: ND
DELAYED OR IMMEDIATE EFFECTS FROM SHORT OR LONG TERM EXPOSURE: ND
NUMERICAL MEASURES OF TOXICITY: ND
INTERACTIVE EFFECTS: ND

Toxicological Data for CFM Technical:

Mutagenicity:	Found to be non-mutagenic.
Carcinogenicity:	Not a carcinogen.
Reproductive Toxicity:	Does not show any developmental toxicity.

12. Ecological Information:

Ecological Data for Maintain® CF 125:

LD_{50} (48 h)	Honey bee	>25µg/bee

BIOACCUMULATIVE POTENTIAL: ND – Not required (required for technical)

Ecological Data for CFM Technical:

LC_{50} (96 h)	Bluegill sunfish	7.45 mg/L
EC_{50} (48 h)	Daphnia magna	22.4 mg/L
LC_{50} (96 h)	Rainbow trout	5.91 mL/kg

PERSISTANCE AND DEGRADABILITY: 99% is gone from soil after application. Hydrolyzes readily and rapidly under basic conditions.
MOBILITY IN SOIL: Movement of CFM in soil is slight while degradation product is very mobile.

13. Disposal Considerations:

Do not contaminate water, food, or feed by disposal.
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 Sate 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 content into application equipment or mix tank. Fill the container ¼ 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:

SHIPPING DESCRIPTION:
(Ground transport)
Containers ≤ 119 gallons – Not regulated by USDOT
Containers > 119 gallons – NA1993, Combustible liquid, N.O.S. (contains petroleum distillate), PG III

DOT HAZARD CLASS:	Combustible liquid, N.O.S.
IDENTIFICATION NUMBER:	NA1993
DOT PACKING GROUP:	PG III

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 with the U.S. 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:

HMIS HAZARD RATING	HEALTH	1
	FLAMMABILITY	1
	PHYSICAL HAZARD	0
	4=Severe 3=Serious 2=Moderate 1=Slight 0=Minimal	

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This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling.
It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

REVISED DATE: **September 16, 2016**
REFERENCE: **Revised for GHS compliance**

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