

MATERIAL SAFETY DATA SHEET

Ecoval Corporation

Section 1 – Product Information

Brand Name: ECOCLEAR
Chemical Family: CONCENTRATE WEED CONTROL
Intended Use: HERBICIDE

Section 2 – Supplier/Manufacturer Information

Supplier: Ecoval Corporation
8604 Main Street, Suite 1, Williamsville, NY 14221
Tel: 1-866-298-2229
Preparation date: March 26th, 2007
Prepared by: Ecoval Corporation
Non-emergency Phone No: 1-866-298-2229
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Section 3 – Product Composition

Ingredient	CAS No.	Weight %
Acetic acid	64-19-7	10 - 30
Citric acid	77-92-9	10 - 30
Solvent naphtha	64742-95-6	0.1 – 0.5
1,2,4-Trimethylbenzene	95-63-6	0.1 – 0.3

Section 4 – Hazards Identification

Emergency Overview: Corrosive to eyes and skin.
Routes of Entry: Eye contact, skin contact, skin absorption, inhalation, and ingestion.
Eyes: Corrosive, contact causes severe burns.
Skin contact: Corrosive, may cause permanent skin damage.
Skin Absorption: Corrosive if contacts skin.
Inhalation: May be harmful if vapours are inhaled.
Ingestion: Substance is corrosive if ingested.
Chronic Exposure: Refer to Section 12.
Acute Exposure: Corrosive to skin and eyes

Section 5 – First Aid Measures

Eye contact: Flush immediately with water for 15 min. Get medical attention.
Skin contact: Immediately flush skin with plenty of water. Remove clothing. Get medical attention if irritation develops or persists. Contaminated clothing should be discarded in a manner of limiting further exposure.
Skin absorption: Immediately flush skin with plenty of water. Remove clothing. Get medical attention if irritation develops or persists. Contaminated clothing should be discarded in a manner limiting further exposure.
Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion: Get medical attention immediately. Substance may be harmful if swallowed.

Section 6 – Fire Fighting Measures

Flash Point:	Above 61°C
Flash Point Method:	Closed cup
Upper Flammable Limit:	N/AV
Lower Flammable Limit:	N/AV
Autoignition:	N/AV
Hazardous Combustion Products:	Combustion may produce carbon dioxide, carbon monoxide and irritating vapours
Means of Extinction:	Water fog, Dry chemical, Foam
Conditions of Flammability:	N/AV
Explosion Data	
Mechanical Impact:	No
Static Discharge:	No

Section 7 - Accidental Release Measures

In case of accidental spill, contain the spill if possible and prevent runoff to the waterways. Absorb the spills on the inert material and place in suitable containers. Dispose of in accordance with regional regulations.

Section 8 – Handling and Storage

Handling Procedures:	Avoid contact with eyes, skin, and clothing. Wash hands after handling.
Storage Requirements:	Store the product in the original container in a well ventilated and dry area. Keep out of the reach of children.

Section 9 – Exposure Control / Personal Protection

Specific Engineering Controls: If user operations generate dust, fume, or mist, use ventilation to minimize exposure.

Personal Protective Equipment: Where splashing is possible, protective gloves, fully chemical resistant clothing and boots are required. Safety glasses with side shields are recommended while handling.

Exposure Limits: Consult local regulations / authorities for acceptable exposure limits.

Work Practices: Keep this product away from food and drink. Wash hands thoroughly after handling the product.

Section 10 – Physical and Chemical Properties

Appearance:	Amber liquid
Odour:	Acetic acid
Vapour Pressure:	N/AV
Vapour Density:	N/AV
Physical State:	Liquid
Boiling Point:	Approximately 100°C
Freezing/Melting Point:	Approximately 0°C
pH:	1.6
Evaporation Rate:	Similar to water
Coefficient water/oil distribution:	N/AV.
Odour Threshold:	N/AV
Specific Gravity:	1.0890

Section 11 - Stability and Reactivity

Stability: Yes.

Storage stability: A systematic study indicated that the product is stable when stored at ambient conditions and that the test material has no corrosive effect of on the container material (high density polyethylene). No phase separation in the product occurs.

Conditions to Avoid: High temperatures, alkaline and strong oxidizing conditions.

Materials to Avoid: Contact with metal or wood furniture and fencing to prevent staining and surface finishing

Hazardous Decomposition Products: N/AV.

Hazardous Polymerization: N/AV.

Section 12 - Toxicological Information

Ingredient	LC ₅₀ (ml/m ³)	LD ₅₀ Oral mg/kg)	LD ₅₀ Dermal (mg/kg)
Acetic acid	5620	3310 (rat)	1060 (rabbit)
Citric acid	N/AP	3000 (rat)	N/AV
Solvent naphtha	10386	8400 (rat)	3480 (rabbit)
1,2,4-Trimethylbenzene	36000 (rat)	5000 (rat)	N/AV

Sensitization to Product: Not available.

Carcinogenicity: Not available.

Irritancy of Product: May cause irritation due to its ingredients.

Reproductive Toxicity: Not available.

Teratogenicity: Maternal toxicity from naphtha solvent (light aromatic petroleum).

Mutagenicity: Not available.

Name of Toxicologically Synergistic Products: Increased carcinogenicity with N-nitrososarcosin ethyl ester and dimethylbenzyl anthracene with acetic acid. Toxic effects of 1,2,4 trimethyl benzene increase with consumption of alcohol.

Section 13 – Ecological Information

Environmental Impact Assessment

The product is expected to be degraded rapidly after it is released in the environment by the naturally microorganisms that are found in soil, natural waters and sewage treatment systems. All the components present in this product are organic compounds and are readily biodegradable in soil and water.

Both acetic acid and citric acid are naturally found in soil and greater than 90% of these compounds are degraded within 48 hours of release to soil or water. Acetic acid shows no potential for biological accumulation or food chain contamination

Both naphtha and 1,2,4-trimethylbenzene (TMB) are petroleum products and are used in small quantity in the product. After release into the environment both naphtha and TMB volatilizes and biodegraded rapidly from surface waters. In soil, these compounds will have low mobility and volatilization and biodegradation will be the major route of removal from soils within a week.

Effect on Soil Microflora

This product has no detrimental effects on soil microflora. Its presence produces stimulatory response of increases the microbial biomass, respiration rates and nitrogen mineralization in poor soil.

Section 14 - Disposal Considerations

Review and contact your local municipal office for specific disposal guidelines in your region. Don't reuse the empty packaging for any other products.

Section 15 - Transport Information

TDG Road Classification

Shipping Name: Corrosive liquid, Acidic, N.O.S. (acetic acid)

Class: 8

Packing Group: III

UN #: UN2790

Marine pollutants: None

Limited Quantity Exemption: 1 Litre

Section 16 - Regulatory Information

WHMIS Classification: E

P.C.P. Registration #: 25528

EPA Registration #: 69836-2

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Section 17 – Other Information

N/AV: Not available

N/AP: Not applicable

NR: Not regulated

Supplier / Manufacturer Disclaimer

Information for this material safety data sheet was obtained from sources considered accurate and reliable, and was prepared to the best of Ecoval Corporations' knowledge. Actual conditions of use and handling beyond seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, Provincial and local laws and regulations.