

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

**CATALYTIC
GENERATORS, LLC.**

Trade name: **Ethy-Gen® II**

Version: 1.0 / EN

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Print date:

8 June 2010

Revision date:

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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

- 1.1. Identification: Ethy-Gen® II
- 1.2. Use: For use as a Plant Growth Regulator in stored perishable products.
- 1.3. Identified Uses: Use only in a Catalytic Generator to create ethylene for fruit ripening and citrus degreening. For industry use only in commercial ripening and degreening rooms.
- 1.4. Company: Catalytic Generators, LLC
1185 Pineridge Road
Norfolk, VA 23502 USA
- 1.5. Information: Telephone: +757-855-0191
e-mail: info@catalyticgenerators.com
- 1.6. Emergency: Telephone CHEMTREC: +703-527-3887

2. HAZARDS IDENTIFICATION

- 2.1. Hazards Classification: +F: Highly Flammable X_i: Irritant
- 2.2. Adverse human health effects and symptoms:
- 2.2.1. EFFECTS OF ACUTE EXPOSURE TO PRODUCT: May cause eye and upper respiratory tract irritation. Short-term overexposure above 1,000 ppm by the inhalation route may cause central nervous system (CNS) effects such as headache and irritation of eyes, nose and throat. If continued for more than an hour additional CNS effects may occur such as: dizziness, drowsiness, loss of appetite, and an inability to concentrate. Gastrointestinal (stomach) effects may occur with symptoms such as nausea and vomiting.
- 2.2.2. SKIN: Defatting of the skin with irritation, dryness and cracking.
- 2.2.3. EYE: Eye exposure generally causes transient pain, irritation, and reflex lid closure. A foreign body sensation may persist for one to two days. Vapors produce transient stinging and tearing, but no apparent adverse effects. Transiently impaired perception of color may occur with acute ingestion or chronic alcoholism.
- 2.2.4. EFFECTS OF CHRONIC EXPOSURE TO PRODUCT: Long-term exposure can cause loss of appetite, weight loss, nervousness, memory loss, mental retardation and liver damage. May cause dermatitis by defatting the skin from prolonged or repeated contact. Alcoholic beverages are carcinogenic to humans. Ethanol has developmental effects that are associated with ethanol intake. Examples of chronic ethanol abuse effects include physical dependence, malnutrition, amnesia, dementia, somnolence, cardiac myopathy, hepatotoxicity, GI bleeding and pancreatitis. Combined exposure to ethanol and certain other chemicals may result in increased effects.

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3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Chemical Characterization: A ready to use formulation containing 90% ethanol

3.2. Hazardous Components:

Component	EC No.	CAS No.	Concentration	Classification
Ethanol	200-578-6	64-17-5	90%	R11, +F
Ethyl Acetate	205-500-4	141-78-6	1-6%	R11, Xi, R36, R66, R67, +F
Isopropyl Alcohol	200-661-7	67-63-0	1-6%	R11, Xi, R36, R67, +F

For full text of each R-phrase, see section 15.

4. FIRST AID MEASURES

- 4.1. INGESTION: 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.
- 4.2. INHALATION: Move person to fresh air. If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
- 4.3. EYE CONTACT: 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 eye. Call a poison control center or doctor for treatment advice.
- 4.4. SKIN CONTACT: 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.

5. FIRE FIGHTING MEASURES

- 5.1. FLAMMABILITY: Yes, under conditions of heat, sparks, open flames, contact with oxidizing materials.
- 5.2. MEANS OF EXTINCTION: Alcohol foam, CO₂, dry chemical. Cool exposed containers with water. Water may be ineffective on fire.
- 5.3. EXPLOSION DATA: Insensitive to impact. Unlikely to accumulate a static charge. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area.
- 5.4. HAZARDOUS COMBUSTION PRODUCTS: Burning can produce Carbon Monoxide (CO; highly toxic if inhaled) and/or Carbon Dioxide (CO₂; in sufficient concentrations can act as an asphyxiant).

6. ACCIDENTAL RELEASE MEASURES

- 6.1. PERSONAL PRECAUTIONS: Keep people away from upwind of spill/leak. Remove all sources of ignition. Do not breathe vapours or spray mist.

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- 6.2. ENVIRONMENTAL PRECAUTIONS: Assure adequate ventilation in leak or spill area. Remove all sources of heat or ignition. Do not flush to sewer.
- 6.3. METHODS FOR CLEANUP: If necessary, use water spray or alcohol-resistant foam to reduce vapors. Contain and recover the liquid, where possible. Absorb liquid onto a compatible absorbent material; handle as a flammable material. Containerize spill cleanup residues to prevent release of vapors, prevent contact with heat, sparks, open flames, and oxidizing materials.

7. HANDLING AND STORAGE

- 7.1. HANDLING PROCEDURES: Avoid contact with sparks, open flames, and oxidizing materials. Do not smoke while using this product. If transferring product from a metal container, ensure that container is grounded.
- 7.2. STORAGE PROCEDURES: Store in a dry locked storage area in accordance with local fire code.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- 8.1. Components with workplace control parameters:

ETHANOL

EXPOSURE LIMIT VALUE	OSHA (USA)	AGS & DFG (GERMANY)	FRANCE	UK
SHORT TERM	1,000 PPM	1,000 PPM	5,000 PPM	1,000 PPM
EIGHT HOUR	1,000 PPM	500 PPM	1,000 PPM	NONE

ETHYL ACETATE

EXPOSURE LIMIT VALUE	OSHA (USA)	AGS & DFG (GERMANY)	FRANCE	UK
SHORT TERM	NONE	800 PPM	NONE	400 PPM
EIGHT HOUR	400 PPM	400 PPM	400 PPM	200 PPM

ISOPROPYL ALCOHOL

EXPOSURE LIMIT VALUE	OSHA (USA)	AGS & DFG (GERMANY)	FRANCE	UK
SHORT TERM	500 PPM	400 PPM	400 PPM	500 PPM
EIGHT HOUR	400 PPM	200 PPM	NONE	400 PPM

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8.2. Engineering Measures

- 8.2.1. Use in well ventilated area. When necessary, a system of local or general exhaust is recommended to keep employee exposures below allowable exposure limits.
- 8.2.2. When transferring product from a metal container, ensure that container is grounded.

8.3. Personal Protective Equipment

- 8.3.1. **Protective Gloves:** Use chemical-resistant gloves such as rubber, neoprene or vinyl. Do not use PVA gloves.
- 8.3.2. **Protective Clothing:** When skin contact is possible, wear long-sleeved shirt, long pants, socks, shoes, head and face protection.
- 8.3.3. **Eye:** Use chemical / splash safety goggles when eye contact is possible.
- 8.3.4. **Inhalation:** Under normal conditions, the use of this product should not require respiratory protection. If allowable exposure limits are exceeded, an approved cartridge respirator can be worn up to the maximum use concentration specified by the respirator manufacturer. For atmospheres that are immediately dangerous to life and health or for unknown atmospheres, use only a self-contained breathing apparatus operating in an approved positive-pressure mode.
- 8.3.5. **Protective Clothing:** Wear long-sleeved shirt, long pants, socks and shoes.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1.	PHYSICAL STATE:	Liquid
9.2.	ODOR THRESHOLD:	Not Avail.
9.3.	VAPOR DENSITY:	1.59
9.4.	EVAPORATION RATE:	1.7
9.5.	pH:	Not Appl.
9.6.	ODOR AND APPEARANCE:	Clear with Fruity Odor
9.7.	SPECIFIC GRAVITY:	0.793 @ 20°C (68°F)
9.8.	VAPOR PRESSURE:	44.6 mmHg @ 20°C (68°F)
9.9.	BOILING POINT:	78.3°C (173°F)
9.10.	FREEZING POINT:	-114.1°C (-173.4°F)
9.11.	VISCOSITY:	1.49 @ 20°C (68°F)
9.12.	COEFF OF WATER / OIL DISTRIBUTION:	-0.31
9.13.	FLASHPOINT AND METHOD:	12°C (53.6°F), Closed Cup
9.14.	UPPER FLAMMABLE LIMIT:	14.0% by volume
9.15.	LOWER FLAMMABLE LIMIT:	3.5% by volume

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- 9.16. AUTOIGNITION TEMPERATURE: Determined not to have an auto-ignition temperature below 400°C (752°F)

10. STABILITY AND REACTIVITY

- 10.1. CHEMICAL STABILITY: The product is stable.
- 10.2. SUBSTANCES TO AVOID: Contact with acetyl chloride or other strong oxidizing agents may result in a violent reaction
- 10.3. REACTIVITY: Does not react with air, water or other common materials
- 10.4. DECOMPOSITION PRODUCTS: Not expected to decompose under normal conditions
- 10.5. CONDITIONS TO AVOID: Avoid contact with strong oxidizers, excessive heat, sparks or open flame
- 10.6. HAZARDOUS POLYMERIZATION: Not expected to occur

11. TOXICOLOGICAL INFORMATION

- 11.1. Rat LD50 oral: >6 g/kg bw, literature value
- 11.2. Rat LD50 dermal: >20 g/kg, literature value
- 11.3. Rat LC50 inhalation: 38 mg/l, literature value
- 11.4. Skin irritation: Irritant (Hazard Symbol: I)
- 11.5. Eye irritation: Irritant (rabbit eye), literature value
- 11.6. Skin sensitization: Negative (M & K test), literature value

12. ECOLOGICAL INFORMATION

- 12.1. Toxicity to fish: LC50 Pimephales promelas: 15,300 mg/l; 96 h; literature value

13. DISPOSAL CONSIDERATIONS

- 13.1. All packaging, labeling, transporting and disposal of recovered material should be performed in accordance with local regulations.

14. TRANSPORT INFORMATION

- 14.1. Proper shipping name: FLAMMABLE LIQUID N.O.S. (CONTAINS ISOPROPYL ALCOHOL AND ETHANOL)

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14.2.	Class:	3
14.3.	UN/ID No.:	UN1993
14.4.	Packing Group:	II
14.5.	ADR/RID Hazard ID no.:	3
14.6.	Marine Pollutant:	No
14.7.	Note:	<i>Not packaged for Air Transport</i>

15. REGULATORY INFORMATION

15.1. Labeling



Regulatory base 67/548/EEC

Symbol +F:	Highly flammable.
X _i :	Irritant.
R-phrases R11:	Highly flammable.
R36:	Irritating to eyes.
R37:	Irritating to respiratory system.
R66:	Repeated exposure may cause skin dryness or cracking.
R67:	Vapours may cause drowsiness and dizziness.
S2:	Keep out of reach of children.
S7:	Keep container tightly closed.
S9:	Keep container in well ventilated place.
S16:	Keep away from sources of ignition - No smoking.
S33:	Take precautionary measures against static discharge.
S45:	In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

15.2. Hazardous components which must be listed on the label:

15.2.1. Ethanol / Isopropanol / Ethyl Acetate

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16. OTHER INFORMATION

All statements, technical information and recommendations on this SDS are believed to be accurate and were obtained from sources currently available to us that we believe to be reliable. We make no warranty, express or implied, with respect to this information regarding its accuracy. Some information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The conditions or methods of handling, storage, use or disposal of this product are beyond our control and may be beyond our knowledge. Therefore, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with the handling, storage, use or disposal of this product. Users should make their own investigations to determine the suitability of the information for their particular purposes and should know and comply with all applicable rules, regulations and laws relating to this product.

For Industrial Use Only

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