Safety Data Sheet

according to OSHA Hazard Communication
29 CFR Part 1910.1200

SECTION 1. Identification

Product Code 60135

Product Name: FILMEX A-1 190
FILMEX A-1 190 Ethyl Alcohol

Supplied by: Reladyne, LLC
8280 Montgomery Road, Suite 101
Cincinnati, OH 45236
888-830-5053
reladyne.com

24 Hour Emergency:
INFOTRAC: 1-800-535-5053

Outside U.S. and Canada
Infotrac: 1-800-535-5053

NOTE: INFOTRAC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals

SECTION 2. Hazard(s) Identification

***** EMERGENCY OVERVIEW ***:** Highly flammable liquid and vapor. May be fatal or cause blindness if swallowed. Can cause permanent injury to the eyes.

GHS Classification
Acute Tox. 3, Eye Irrit. 2, Flam. Liq. 2, STOT SE 2, STOT SE 3 NE, STOT SE 3 RTI, Skin Irrit. 2

Symbol(s) of Product

Signal Word
Danger

GHS HAZARD STATEMENTS

Flammable Liquid, category 2	H225	Highly flammable liquid and vapor.
Acute Toxicity, Oral, category 3	H301	Toxic if swallowed.
Skin Irritation, category 2	H315	Causes skin irritation.
Eye Irritation, category 2	H319	Causes serious eye irritation.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.
STOT, single exposure, category 2	H371	May cause damage to organs.

GHS PRECAUTIONARY STATEMENTS

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash thoroughly after handling.
P270	Do no eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician

P302+P352	IF ON SKIN: Wash with plenty of water
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor/physician
P312	Call a POISON CENTER/doctor/physician if you feel unwell.
P321	Specific treatment (see first aid section on this label).
P330	Rinse mouth.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use appropriate method to extinguish.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 3. Composition/Information on Ingredients

Chemical Name	CAS-No.	Wt. %	GHS Symbols	GHS Statements
Ethyl alcohol	64-17-5	75-100	GHS02-GHS07	H225-312-315-319-335-336
2-propanol	67-63-0	2.5-10	GHS02-GHS07	H225-319-336
Methanol	67-56-1	2.5-10	GHS02-GHS06-GHS08	H225-300-332-370
4-methyl-2-pentanone	108-10-1	0.1-1.0	GHS02-GHS06	H225-319-331-335

The text for GHS Hazard Statements shown above (if any) is given in the "Other information" Section.

SECTION 4. First-Aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with water. Flush eyes with water for a minimum of 15 minutes, occasionally lifting and lowering upper lids. Get medical attention promptly. Remove contact lenses if worn.

FIRST AID - SKIN CONTACT: Immediately flush skin with plenty of water. Remove clothing. Get medical attention immediately. Wash clothing separately and clean shoes before reuse.

FIRST AID - INHALATION: Rescuers should put on appropriate protective gear. Remove from area of exposure. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Keep victim warm. Get immediate medical attention. To prevent aspiration, keep head below knees.

FIRST AID - INGESTION: Do not induce vomiting. Do not give liquids. Obtain emergency medical attention.

SECTION 5. Fire-Fighting Measures

UNUSUAL FIRE AND EXPLOSION HAZARDS: Highly flammable liquid and vapor. May cause flash fire or explosion. Vapors can travel to a source of ignition and flash back. Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. Also, do not reuse container without commercial cleaning or reconditioning.

SPECIAL FIREFIGHTING PROCEDURES: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear. Avoid use of solid water streams. Use water with caution. Material will float and may ignite on surface of water. Water may be ineffective in fighting the fire. Water spray to cool containers or protect personnel. Use with caution. Use water spray to knock down vapors. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Small fires: Dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Large fires: Water spray, water fog, and alcohol-resistant foam.

EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Foam, Water Fog

SECTION 6. Accidental Release Measures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASE OR SPILLED: Wear appropriate personal protective equipment. (See Exposure Controls / Personal Protection Section.)Eliminate all ignition sources. Prevent additional discharge of material if able to do so safely. Do not touch or walk through spilled material. Avoid runoff into storm sewers and ditches which lead to waterways. Ventilate spill area. Stay upwind of spill. A vapor supressing foam may be used to reduce vapors. If leak or spill has not ignited, use water spray to disperse the vapors. Collect spilled materials for disposal. Use only non-combustible material for clean-up. Use clean, non-sparking tools to collect absorbed materials. Remove from surface by skimming or with suitable absorbents. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Recover by pumping (use an explosion proof or hand pump).

SECTION 7. Handling and Storage

HANDLING: Use only in a well ventilated area. Avoid breathing vapor, fumes or mist. Avoid contact with eyes, skin, and clothing. Potential peroxide former. If peroxide formation is suspected, do not open or move container. Take precautionary measures against static discharge. When transferring, follow proper grounding procedures. Use spark-resistant tools. Do not load into compartments adjacent to heated cargo. Use explosion proof equipment. Always open containers slowly to allow any excess pressure to vent. After opening, purge container with nitrogen before reclosing. Addition of water or appropriate reducing materials will lessen peroxide formation. Follow all MSDS/label precautions even after containers are emptied because they may retain product residues.

STORAGE: Keep away from heat, sparks, and flame. Store containers in a cool, well ventilated place. Keep container closed when not in use. Do not allow to evaporate to near dryness. Protect from direct sunlight.

SECTION 8. Exposure Controls/Personal Protection

Ingredients with Occupational Exposure Limits

Chemical Name	ACGIH TLV-TWA	ACGIH-TLV STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Ethyl alcohol	N.D.	1000.0 ppm	1000.0 ppm	N.D.
2-propanol	200 ppm	400 ppm	400 ppm	N.D.
Methanol	200 ppm	250 ppm	200 ppm	N.D.
4-methyl-2-pentanone	20 ppm	75 ppm	100 ppm	N.D.

Personal Protection

RESPIRATORY PROTECTION: Wear a MSHA/NIOSH approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

SKIN PROTECTION: Wear impervious gloves to prevent contact with the skin. Wear long sleeves when contact is likely to occur. Wear protective gear as needed - apron, suit, boots.

EYE PROTECTION: Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent).

OTHER PROTECTIVE EQUIPMENT: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

HYGENIC PRACTICES: Do not eat, drink, or smoke in areas where this material is used. Avoid breathing vapors. Remove contaminated clothing and wash before reuse. Wash thoroughly after handling. Wash hands before eating.

SECTION 9. Physical and Chemical Properties

Appearance:	Colorless liquid	**Physical State:**	Liquid
Odor:	Typical	**Odor Threshold:**	N.D.
Density, g/cm3:	0.816	**pH:**	N.D.
Freeze Point, °F:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Complete	**Explosive Limits, vol%:**	1.4 - 36.0
Boiling Range, °F:	147 - 241	**Flash Point, °F:**	55
Evaporation Rate:	Not determined	**Auto-ignition Temp., °F:**	N.D.
Vapor Density:	N.D.	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

SECTION 10. Stability and Reactivity

STABILITY: No Information

CONDITIONS TO AVOID: Avoid impact, friction, heat, sparks, flame and source of ignition. Minimize exposure to air.

INCOMPATIBILITY: Avoid contact with caustics. Prevent contact with combustible materials. Keep separate from alkalies. Prevent contact with aldehydes. Avoid contact with chlorinated compounds. Avoid contact with hydrogen peroxide, chromic anhydride, nitric acid, mixed nitric/sulfuric acid, nitrosyl perchlorate, permonosulfuric acids, potassium tert-butoxide, sodium hypobromite, chlorinated melamine. Prevent contact with halogens. Prevent contact with strong oxidizing agents. Avoid contact with amines. Keep away from acids.

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic gases/fumes are given off during burning or thermal decomposition. During combustion carbon monoxide may be formed. During combustion carbon dioxide may be formed. May form peroxides of unknown stability. Combustion can lead to the formation of formaldehyde. Combustion can lead to formation of formic acid.

HAZARDOUS POLYMERIZATION: No Information

SECTION 11. Toxicological Information

Information on Toxicological Effects

EFFECTS OF OVEREXPOSURE - INHALATION: Vapors can cause irritation of the respiratory tract. High concentrations can cause headache, nausea, weakness, lightheadedness, and stupor (CNS depression). High vapor concentrations may cause drowsiness and irritation. Irritating to the respiratory system. May cause drowsiness and dizziness.

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Causes skin irritation. Skin absorption may add significantly to the overall toxic effect. Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Moderately irritating to the eyes causing transient corneal injury. Symptoms may include stinging, tearing, redness and swelling.

EFFECTS OF OVEREXPOSURE - INGESTION: May be fatal or cause blindness if swallowed. Harmful or fatal if liquid is aspirated into lungs. Ingestion may cause gastrointestinal tract irritation. Ingestion may cause liver and kidney damage. Ingestion may result in nausea, vomiting, diarrhea and restlessness. May cause central nervous system depression.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Material is slowly eliminated from the body, therefore it can have cummulative toxicity effects with repeated exposures. Ethanol possesses properties that indicate a carcinogenity hazard for human health but these are manifest only at doses associated with consumption of alcoholic beverages. In the context of an industrial chemical, these hazards do not warrant concern as these are not likely to result from the manufacture and use of ethanol and ethanol containing products as intended. Ethanol possesses properties that indicate a lactation hazard for human health but these are manifest only at doses associated with consumption of alcoholic beverages. In the context of an industrial chemical, these hazards do not warrant concern as these are not likely to result from the manufacture and use of ethanol and ethanol containing products as intended. Ethanol possesses properties that indicate a developmental hazard for human health but these are manifest only at doses associated with consumption of alcoholic beverages. In the context of an industrial chemical, these hazards do not warrant concern as these are not likely to result from the manufacture and use of ethanol and ethanol containing products as intended. Overexposure may cause nervous system damage. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema. Overexposure may cause kidney damage. Vapors irritating to eyes and respiratory tract. Significant exposure to this chemical may adversely affect people with chronic disease of the respiratory system, central nervous system, kidney, liver, skin, and/or eyes.

Primary Route(s) of Entry: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

Acute Toxicity Values
The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Name according to EEC	Oral LD50, mg/kg	Dermal LD50, mg/kg	Vapor LC50, mg/L
64-17-5	Ethyl alcohol	>7,060	>1,440	>19,977.18
67-63-0	2-propanol	>5,840	>12,800	>25,000
67-56-1	Methanol	5.628	15,800	20.0
108-10-1	4-methyl-2-pentanone	>2,080	>2,000	16.4

SECTION 12. Ecological Information

ECOLOGICAL INFORMATION: No Information

SECTION 13. Disposal Considerations

For more guidance and information contact our Waste Services Division at (262) 658-4000.

Always dispose of any waste in accordance with all local, state, and federal regulations.

DISPOSAL METHOD: Dispose of waste in accordance with all local, state and federal regulations.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASE OR SPILLED: Wear appropriate personal protective equipment. (See Exposure Controls / Personal Protection Section.)Eliminate all ignition sources. Prevent additional discharge of material if able to do so safely. Do not touch or walk through spilled material. Avoid runoff into storm sewers and ditches which lead to waterways. Ventilate spill area. Stay upwind of spill. A vapor supressing foam may be used to reduce vapors. If leak or spill has not ignited, use water spray to disperse the vapors. Collect spilled materials for disposal. Use only non-combustible material for clean-up. Use clean, non-sparking tools to collect absorbed materials. Remove from surface by skimming or with suitable absorbents. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Recover by pumping (use an explosion proof or hand pump).

SECTION 14. Transport Information

DOT Proper Shipping Name:	Ethanol solutions	**Packing Group:**	II
DOT Hazard Class:	3	**Hazard SubClass:**	No Information
DOT UN/NA Number:	UN1170	**Resp. Guide Page:**	127

SECTION 15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

SARA SECTION 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
Methanol	67-56-1
4-methyl-2-pentanone	108-10-1

TOXIC SUBSTANCES CONTROL ACT:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA components exist in this product.

U.S. State Regulations:

NEW JERSEY RIGHT-TO-KNOW:

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name	CAS-No.
Water	7732-18-5

PENNSYLVANIA RIGHT-TO-KNOW

The following non-hazardous ingredients are present in the product are at or greater than 3%.

Chemical Name	CAS-No.
Water	7732-18-5

CALIFORNIA PROPOSITION 65 CARCINOGENS

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

Chemical Name	CAS-No.
4-methyl-2-pentanone	108-10-1

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

Chemical Name	CAS-No.
Methanol	67-56-1

International Regulations: As follows -

CANADIAN WHMIS:

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

WHMIS Class: No Information

SECTION 16. Other Information

Revision Date: 6/1/2018 **Supersedes Date:** 4/24/2014

Datasheet produced by: EH&S - Regulatory Department

HMIS Ratings:

Health:	1	**Flammability:**	3	**Reactivity:**	0 - No Hazard	**Personal Protection:**	X

Volatile Organic Compounds, gr/ltr: 759

DISCLAIMER: THE VOLATILE ORGANIC COMPOUND (VOC) CONTENT REPORTED HEREIN, IF ANY, IS BASED ON A MATERIAL VOC CALCULATION. NOTE THAT SEVERAL METHODS ARE USED FOR CALCULATING VOC CONTENT AND THAT STANDARDS/ REQUIREMENTS REGARDING VOC CONTENT VARY BY LOCATION/JURISDICTION. ACCORDINGLY, EMCO MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, REGARDING THIS MATERIAL'S COMPLIANCE WITH VOC STANDARDS/ REQUIREMENTS APPLICABLE IN LOCATIONS/JURISDICTIONS WHERE THIS MATERIAL MAY BE SOLD OR USED.

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H225	Highly flammable liquid and vapor.
H300	Fatal if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.

H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H370	Causes damage to organs.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS02

GHS06

GHS07

GHS08

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined, N.I. - No Information

The information on this SDS was obtained from sources which we believe to be reliable. However, the information provided is without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information and recommendations are offered for the user's consideration and examination and should be used to make an independent determination of the methods to safeguard workers and the environment. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For these reasons we do not assume responsibility and expressly disclaim any liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS may not be applicable. It is the responsibility of the user to comply with all Federal, State, and Local laws and regulations.