Safety Data Sheet
2-ETHYLHEXYL ACRYLATE

SECTION 1: Identification

1.1 Product identifier

Product name	2-ETHYLHEXYL ACRYLATE
CAS no.	103-11-7

1.3 Recommended use of the chemical and restrictions on use

Chemical intermediate.

1.4 Supplier's details

Name	Covalent Chemical LLC	
Address	6501 Creedmoor Rd. Raleigh NC 27613 USA	
Telephone		
Fax	(919)	825-1400
email	(919) info@covalentchemical.com	825-0292

1.5 Emergency phone number(s)

CHEMTREC: (800) 424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with OSHA (29 CFR 1910.1200)

- Flammable liquids (chapter 2.6), Cat. 4
- Skin corrosion/irritation (chapter 3.2), Cat. 2
- Sensitization, skin (chapter 3.4), Cat. 1B
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3

2.2 GHS label elements, including precautionary statements

Pictogram

Signal word **Warning**

Hazard statement(s)

H227	Combustible liquid
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H335	May cause respiratory irritation

Precautionary statement(s)

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P333+P313	If skin irritation or a rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use dry sand, dry chemical or alcohol resistant foam 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 to an approved waste disposal plant.

2.3 Other hazards which do not result in classification

SECTION 3: Composition/information on ingredients

3.1 Substances

CAS no.	103-11-7
Other names / synonyms	2-ethylhexyl acrylate

Hazardous components

1. 2-ETHYLHEXYL ACRYLATE

Concentration	> 99.5 - < 100 %
Other names / synonyms	1-HEXANOL, 2-ETHYL-, ACRYLATE; 2-ETHYLHEXYL 2-PROPENOATE; 2-PROPENOIC ACID, 2-ETHYLHEXYL ESTER; ACRYLIC ACID, 2-ETHYLHEXYL ESTER; ETHYLHEXYLACRYLATE,2-; OCTYL ACRYLATE
EC no.	203-080-7
CAS no.	103-11-7

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	First aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash

	protection). If potential for exposure exists, refer to Section 8 for specific personal protective equipment.
If inhaled	Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth, use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.
In case of skin contact	Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts, and watchbands. Suitable emergency safety shower facility should be immediately available.
In case of eye contact	Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthamologist.
If swallowed	Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth unless a person is fully conscious.

4.2 Most important symptoms/effects, acute and delayed
Aside from the information found in Description of first aid measures (above) and indication of immediate medical attention and special treatment needed (below), and any additional important symptoms and effects are described in Section 11: Toxicology Information.

4.3 Indication of immediate medical attention and special treatment needed, if necessary
May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. Respiratory symptoms, including pulmonary edema, may be delayed. Personas receiving significant exposure should be observed 24-48 hour for signs of respiratory distress. Maintain adequate ventilation and oxygenation of the patient. If burn is present, treat as any thermal burn, after decontamination. Due to irritant properties, swallowing may result in burns/ulceration of the mouth, stomach, and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. No specific antidote. Treatment of exposure should be directed at the control symptoms and the clinical condition of the patient. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
Water fog or fine spray, dry chemical fire extinguishers, carbon dioxide fire extingushers, foam, alcohol resistant foams (ATC type are preferred), general purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

5.2 Specific hazards arising from the chemical
Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: carbon monoxide and carbon dioxide.
Unusual Fire and Explosion Hazards: Container may vent and/or rupture due to fire. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

5.3 Special protective actions for fire-fighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Do not use direct water stream. May spread fire. Burning liquids may be moved by flushing with water to protect personne; and minimize property damage. Avoid accumulation of water. Product may be carried across water surface spreading fire or contracting an ignition source. Contain fire run-off if possible. Fire water run-off, if not contained, may cause envirnmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this SDS.
Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avpid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to relevant sections.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate area. Refer to section 7, Handling, for additional precautionary measures. Keep unnecessary and unprotected personnel from entering the area. Keep personnel out of low areas. Keep upwind of spill. Ventilate area of leak or spill. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Vapor explosion hazard. Keep out of sewers. For large spills, warn public of downwind explosion hazard. CHeck area with combustible gas detector before reentering area. Ground and bond all containers and handling equipment. See Section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

6.2 Environmental precautions

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

6.3 Methods and materials for containment and cleaning up

Small spills: Absorb with materials such as: sand or sawdust. Large spills: Dike area to contain spill. Contain spilled material if possible. Pump with explosion-proof equipment. If available, use foam to smother or suppress. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Keep away from heat, sparks and flame. Do not get on kin or clothing. Do not swallow. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Avoid breathing vapor. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Never use air pressure for transferring product. No smoking, open flames or sources of ignition in handling and storage area. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Electrically bond and ground all containers and equipment before transfer or use of material. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Use of non-sparking or explosion-proof equipment may be necessary, depending on the type of operation.

7.2 Conditions for safe storage, including any incompatibilities

Minimize sources of ignition, such as static build-up, heat, spark or flame. Keep container closed. Store in a dry place. Avoid moisture. Maintain inhibitor and dissolved oxygen level. Do not purge containers of this material with nitrogen. Recommended inhibitor level is: 10 to 20 ppm. Recommended oxygen level is: 5 to 8 vol. %. If storage is prolonged, the inhibitor concentration should be tested at least every 60 days. Flammable mixtures may exist within the vapor space of containers at room temperature, Uninhibited monomer vapors can polymerize and plug relief devices. Store away from incompatible materials. See "Stability and Reactivity" Section. Store in the following

materials: glass-lined container, opaque HDPE plastic container, stainless steel, aluminium, and carbon steel. Do not store in: Transluscent container. See Section 10 for more information.
Shelf life: Use within 1 year
Storage temperature: <38 °C (<100 °F)

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. 2-ETHYLHEXYL ACRYLATE (CAS: 103-11-7)
TWA: 3 ppm

8.2 Appropriate engineering controls

Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
Use safety glasses (with side shields).

Skin protection
Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: chlorinated polyethylene, polyethylene, ethyl vinyl alcohol laminate ("EVAL"), polyvinyl alcohol ("PVA"), and styrene/butadiene rubber. Examples of acceptable glove barrier materials include: butyl rubber, natural rubber ("latex"), nitrile/butadiene rubber ("nitrile" or "NBR"), polyvinyl chloride ("PVC" or "vinyl") or viton. Avoid gloves made of: neoprene. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Body protection
Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection
Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. The following should be effective types of air-purifying respirators: organiz vapor cartridge.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form	colorless liquid
Odor	sweet
Odor threshold	0.02 mg/L
pH	not data available
Melting point/freezing point	-90°C (-130°F)
Initial boiling point and boiling range	216°C (421°F) at 760 mmHg
Flash point	82°C (180°F) - closed cup

Evaporation rate	0.03 (Butyl acetate = 1)
Flammability (solid, gas)	not applicable
Upper/lower flammability limits	no data available
Upper/lower explosive limits	0.7 % vol - 8.2% vol
Vapor pressure	0.12 mmHg at 20°C (68°F)
Vapor density	6.4 (air = 1)
Relative density	0.885 (water = 1)
Solubility(ies)	water: 0.01% at 25°C (77°F)
Partition coefficient: n-octanol/water	log Pow: 4.09
Auto-ignition temperature	252°C (486°F)
Decomposition temperature	no data available
Viscosity	1.54 cP at 25°C (77°F)
Explosive properties	no data available
Oxidizing properties	no data available

SECTION 10: Stability and reactivity

10.2 Chemical stability
Stable under recommended storage conditions. See Storage, Section 7. Unstable at elevated temperatures. Hygroscopic.

10.3 Possibility of hazardous reactions
Can occur. Elevated temperatures can cause hazardous polymerization. The inhibitor used with this monomer can separate if product becomes frozen. Polymerization can be catalyzed by: absence of air, free radical initiators, high temperature and peroxides. Uninhibited monomer vapors can polymerize and plug relief devices. Presence of water can accelerate rate of polymerization.

10.4 Conditions to avoid
Avoid temperatures above 38°C. Exposure to elevated temperatures can cause product to decompose. Avoid static discharge. Avoid moisture. Do not blanket or purge with an inert gas to avoid depleting the oxygen concentration. Avoid direct sunlight or ultraviolet sources.

10.5 Incompatible materials
Avoid contact with oxidizing materials. Avoid contact with: aldehydes, amines, azides, ethers, free radical initiators, halides, iron oxides (rust), mercaptans, mineral acids, peroxides and strong inorganic bases. Avoid contact with metals such as: brass and copper. Avoid unintended contact with: activated carbon, silica gel, and aluminum oxide. Avoid contact with absorbent materials such as: clay-based absorbents. Avoid unintended contact with peroxides.

10.6 Hazardous decomposition products
Decomposition products depend upon temperature, air supply, and the presence of other materials.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Acute oral toxicity: Low toxicity if swallowed. Swallowing may result in gastrointestinal irritation or ulceration. Swallowing may result in burns of mouth and throat.
LD50(rat, male and female): 4,435 mg/kg
Acute dermal toxicity: Prolonged skin contact is unlikely to result in absorption of harmful amounts.
LD50(rabbit): 7,522 mg/kg
Acute inhalation toxicity: Prolonged excessive exposure may cause adverse effects. Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs. Signs and symptoms of excessive

exposure may include: dizziness and drowsiness, headache, pulmonary edema (fluid in the lungs). Effects may be delayed. No deaths occurred following exposure to a saturated atmosphere.
LC50(rat, male and female)(8h): > 1.19 mg/L

Skin corrosion/irritation
Brief contact may cause severe skin irritation with pain and local redness. Repeated contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage.

Serious eye damage/irritation
May cause slight temporary eye irritation. Corneal injury is unlikely.

Respiratory or skin sensitization
Skin Sensitization: Has caused allergic skin reactions in humans and when tested in guinea pigs. Has demonstrated the potential for contact allergy in mice.
Respiratory Sensitization: No relevant data found.

Germ cell mutagenicity
In vitro genetic toxicity studies were predominantly negative. Animal genetic toxicity studies were negative.

Carcinogenicity
Has caused tumors in skin painting tests in animals. Positive findings are believed to be secondary to chronic irritation/tissue injury.

Reproductive toxicity
In animal studies, did not interfere with fertility or reproduction. Did not cause birth defects or other effects in the fetus even at doese which cause toxic effects in the mother.

STOT-single exposure
May cause respiratory irritation.
Route of Exposure: inhalation
Target Organs: repiratory system

STOT-repeated exposure
In animals, effects have been reported on the following organs: respiratory tract.

Aspiration hazard
May be harmful if swallowed and enters airways.

SECTION 12: Ecological information

Toxicity
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).
Acute toxicity to fish: LC50, Orcorhynchus mykiss (rainbow trout), semi-static test, 1.81 mg/L
Acute toxicity to aquatic invertebrates: EC50, Daphnia magna (water flea), static test, 48 hour, 1.3 mg/L
Acute toxicity to algae/aquatic plants: ErC50, Desmodesmus subspicatus (green algae), static test, 72 hour, growth rate inhibition, 1.71 mg/L
Chronic toxicity to aquatic invertebrates: NOEC, Daphnia magna (water flea), 21 days, number of offspring, 0.19 mg/L

Persistence and degradability
Material is readily biodegradable.
10 day: 70-80%
15 day: > 90%
Theoretical Oxygen Demans: 2.60 mg/mg

Biological Oxygen Demand:
5 days: 17-27%
10 days: 19-52%
20 days: 19-58%
Photodegradation:
Test: Half-life (indirect photosynthesis)
Sensitizer: OH radicals
Atmospheric half-life: 6.4 hours

Bioaccumulative potential
Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
Partition coefficient: n-octanol/water(log Pow): 4.09
Bioconcentration factor (BCF): 270-282 fish

Mobility in soil
Potential for mobility in soil is medium (Koc between 150 and 500).
Partition coefficient (Koc): 429

SECTION 13: Disposal considerations

Disposal of the product
Do not dump into any sewers, on the ground, or into any body of water. All disposal practices must be in compliance with all federal, state/provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. As the distributor, we have no control over the management practices or manufacturing processes of parties handling or using this material. The information presented here pertains on;y to the product as shipped in its intended condition as described in Section 3, Compostion Information. For unused and uncontaminated product, the preferred options include sending to a licensed, permited incinerator or other themal destruction device.

SECTION 14: Transport information

DOT (US)
UN Number: NA1993
Class: 3
Packing Group: III
Proper Shipping Name: Combustible liquid, n.o.s. (2-Ethylhexyl acrylate)

IMDG
Not regulated for transport

IATA
Not regulated for transport

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Reactivity Hazard, Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components
2-Ethylhexyl Acrylate CAS-No. 103-11-7

Pennsylvania Right To Know Components
2-Ethylhexyl Acryate CAS-No. 103-11-7

New Jersey Right To Know Components
2-Ethylhexyl Acrylate CAS-No. 103-11-7

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Toxic Substances Control Act (TSCA) Inventory
All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

NFPA Rating

Health hazard	3
Fire hazard	3
Reactivity hazard	2
Special hazard	

SECTION 16: Other information

16.1 Further information/disclaimer
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