

2-ETHYLHEXANOIC ACID

GHS Safety Data Sheet

Version No:3

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

2-ETHYLHEXANOIC ACID

OTHER NAMES

C8-H16-O2, C4H9CH(C2H5)COOH, ethylhexoic, "butylethylacetic acid", "alpha-ethylcaproic acid", "2-ethylcaproic acid", "2-ethylcaproic acid", "2-ethylhexanoic acid", "2-ethylhexanoic acid", "hexanoic acid, 2-ethyl-", "hexanoic acid, 2-ethyl-", "octanoic acid"

PRODUCT USE

Chemical intermediate; manufacture of metallic "octoates" (ethylhexoates). Octoates of Lead, Cobalt, Calcium, Zinc, Zirconium, Manganese are used as paint and varnish driers. Zinc and Stannous octoates are used as urethane foam catalysts and vinyl stabilisers. Ethylhexoates i.e. octoates of Sodium, Calcium, Lithium are used as thickeners for mineral oil based greases.

SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

315- 317, T.V. INDUSTRIAL ESTATE,

248, WORLI,

MUMBAI- 400030.INDIA.

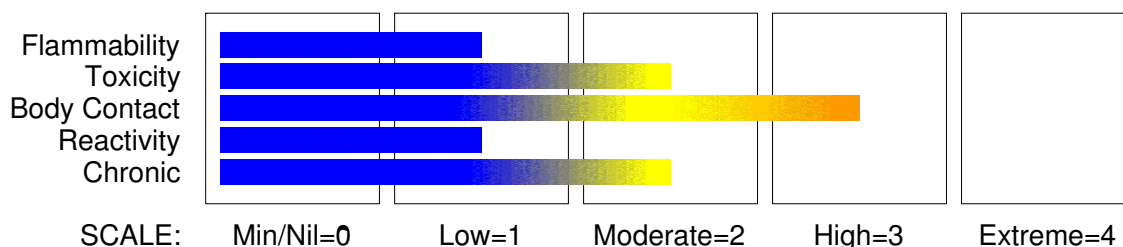
technical@sdfine.com

Telephone: 91- 22- 24959898

Telephone: 91- 22- 24959899

Fax: 91- 22- 24937232

HAZARD RATINGS



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Section 2 - HAZARDS IDENTIFICATION

GHS Classification

Acute Toxicity (Dermal) Category 4

Acute Toxicity (Oral) Category 5

Eye Irritation Category 2A

Reproductive Toxicity Category 2

Skin Corrosion/Irritation Category 3



EMERGENCY OVERVIEW

HAZARD

WARNING

Determined by using GHS criteria:

H312 H303 H316 H319 H361

Harmful in contact with skin

May be harmful if swallowed

Causes mild skin irritation

Causes serious eye irritation

Suspected of damaging the unborn child

PRECAUTIONARY STATEMENTS

Prevention

Do not handle until all safety precautions have been read and understood.

Obtain special instructions before use.

Wear protective gloves/clothing

Wash hands thoroughly after handling.

Use personal protective equipment as required.

Response

Wear eye/face protection.

If skin irritation occurs, seek medical advice/attention.

If eye irritation persists, get medical advice/attention.

If exposed or concerned: Get medical attention advice.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Specific treatment: refer to Label or MSDS.

Call a POISON CENTER or doctor/physician if you feel unwell.

Wash contaminated clothing before reuse.

IF ON SKIN: Gently wash with plenty of soap and water.

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Section 2 - HAZARDS IDENTIFICATION

Storage

Store locked up.

Disposal

Dispose of contents and container in accordance with relevant legislation.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
2- ethylhexoic acid	149-57-5	100

Section 4 - FIRST AID MEASURES

SWALLOWED

For advice, contact a Poisons Information Centre or a doctor.

- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.

EYE

If this product comes in contact with the eyes:

- Immediately hold eyelids apart and flush the eye continuously with running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor.

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Section 4 - FIRST AID MEASURES

NOTES TO PHYSICIAN

For acute or short term repeated exposures to strong acids:

- Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
- Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
- Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the dessicating action of the acid on proteins in specific tissues.

INGESTION:

- Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.
- DO NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.
- Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.
- Charcoal has no place in acid management.
- Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN:

- Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.
- Deep second-degree burns may benefit from topical silver sulfadiazine.

EYE:

- Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjunctival cul-de-sacs. Irrigation should last at least 20-30 minutes. DO NOT use neutralising agents or any other additives. Several litres of saline are required.
 - Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.
 - Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).
- [Ellenhorn and Barceloux: Medical Toxicology].

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Alcohol stable foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog - Large fires only.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- Avoid spraying water onto liquid pools.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.

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Section 5 - FIRE FIGHTING MEASURES

- If safe to do so, remove containers from path of fire.

FIRE/EXPLOSION HAZARD

- Combustible.
- Slight fire hazard when exposed to heat or flame.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- On combustion, may emit toxic fumes of carbon monoxide (CO).
- May emit acrid smoke. May emit corrosive fumes.

Other combustion products include:.

carbon dioxide (CO₂).

FIRE INCOMPATIBILITY

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

Personal Protective Equipment

Chemical splash suit.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.
- Wipe up.
- Place in a suitable labelled container for waste disposal.

MAJOR SPILLS

Clear area of personnel and move upwind.

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Stop leak if safe to do so.
- Water spray or fog may be used to disperse / absorb vapour.
- Contain or absorb spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
- If contamination of drains or waterways occurs, advise emergency services.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

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Section 6 - ACCIDENTAL RELEASE MEASURES

life-threatening health effects is:

2-ethylhexoic acid 500 mg/m³

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

2-ethylhexoic acid 125 mg/m³

other than mild, transient adverse effects without perceiving a clearly defined odour is:

2-ethylhexoic acid 15 mg/m³

The threshold concentration below which most people will experience no appreciable risk of health effects:

2-ethylhexoic acid 6 mg/m³

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+)	>= 0.1%	Toxic (T)	>= 3.0%
R50	>= 0.25%	Corrosive (C)	>= 5.0%
R51	>= 2.5%		
else	>= 10%		

where percentage is percentage of ingredient found in the mixture

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+ X + X 0 +

+: May be stored together

O: May be stored together with specific precautions

X: Must not be stored together

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of overexposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- DO NOT allow material to contact humans, exposed food or food utensils.
- Avoid smoking, naked lights or ignition sources.
- When handling, DO NOT eat, drink or smoke.
- Avoid contact with incompatible materials.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Working clothes should be laundered separately. Launder contaminated clothing before re-use.

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Section 7 - HANDLING AND STORAGE

- Use good occupational work practice.
- Observe manufacturer's storing/handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

Glass container or Plastic container.

- Lined metal can, lined metal pail/ can.
- Plastic pail.
- Polyliner drum.
- Packing as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY

Avoid reaction with oxidising agents.

Avoid storage with reducing agents.

Avoid strong bases.

Avoid storage with cyanides, sulfides, ammonia and amines.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- No smoking, naked lights or ignition sources.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

- 2- ethylhexoic acid:

CAS:149- 57- 5 CAS:202054- 39- 5 CAS:83829- 68- 9

MATERIAL DATA

Not available.

Refer to individual constituents.

PERSONAL PROTECTION



EYE

- Safety glasses with side shields.
- Chemical goggles.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

- Full face shield may be required for supplementary but never for primary protection of eyes
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

- Barrier cream with polyethylene gloves.
- Wear chemical protective gloves, eg. PVC.
- Wear safety footwear.

OTHER

- Overalls.
 - PVC Apron.
 - PVC protective suit may be required if exposure severe.
 - Eyewash unit.
 - Ensure there is ready access to a safety shower.
- DO NOT allow clothing wet with material to stay in contact with skin.

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the computer-generated selection: 2-ethylhexoic acid

Protective Material

NEOPRENE	A
NITRILE	A
PVC	A

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

RESPIRATOR

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Breathing Zone Level	Maximum Protection	Half- face Respirator	Full- Face Respirator
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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

ppm (volume)	Factor		
1000	10	A- AUS	-
1000	50	-	A- AUS
5000	50	Airline *	-
5000	100	-	A- 2
10000	100	-	A- 3
	100+		Airline**

* - Continuous Flow

** - Continuous-flow or positive pressure demand.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

For further information consult

your

Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

Use in a well-ventilated area.

General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in special circumstances. If risk of overexposure exists, wear approved respirator. Supplied-air type respirator may be required in special circumstances.

Correct fit is essential to ensure adequate protection. Provide adequate ventilation in warehouses and enclosed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:

solvent, vapours, degreasing etc., evaporating from tank (in still air).

aerosols, fumes from pouring operations,

intermittent container filling, low speed

conveyer transfers, welding, spray drift,

plating acid fumes, pickling (released at low

velocity into zone of active generation)

direct spray, spray painting in shallow booths,

drum filling, conveyer loading, crusher dusts,

gas discharge (active generation into zone of

rapid air motion)

grinding, abrasive blasting, tumbling, high

speed wheel generated dusts (released at high

initial velocity into zone of very high rapid

air motion)

Air Speed:

0.25- 0.5 m/s (50- 100 f/min)

0.5- 1 m/s (100- 200 f/min.)

1- 2.5 m/s (200- 500 f/min.)

2.5- 10 m/s (500- 2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range

1: Room air currents minimal or favourable to capture

2: Contaminants of low toxicity or of nuisance value only.

3: Intermittent, low production.

4: Large hood or large air mass in motion

Upper end of the range

1: Disturbing room air currents

2: Contaminants of high toxicity

3: High production, heavy use

4: Small hood- local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Clear colourless combustible liquid; floats on water. Mild goaty odour.
Non volatile at room temperature. Mixes with most organic solvents.

PHYSICAL PROPERTIES

Liquid.

Does not mix with water.

Floats on water.

Acid.

Molecular Weight: 144.24

Melting Range (°C): - 83

Solubility in water (g/L): Partly miscible

pH (1% solution): Not available

Volatile Component (%vol): Negligible

Relative Vapour Density (air=1): 5.0

Lower Explosive Limit (%): 0.8 (NFPA)

Autoignition Temp (°C): 371

State: Liquid

Boiling Range (°C): 227

Specific Gravity (water=1): 0.91

pH (as supplied): Not applicable

Vapour Pressure (kPa): Negligible

Evaporation Rate: Not available

Flash Point (°C): 126(Van W&R) 11

Upper Explosive Limit (%): 6.2 (est.) 6.0

Decomposition Temp (°C): Not available.

Viscosity: Not available

log Kow: 2.64

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

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Section 11 - TOXICOLOGICAL INFORMATION

SWALLOWED

Accidental ingestion of the material may be damaging to the health of the individual. Considered an unlikely route of entry in commercial/industrial environments. Ingestion of low-molecular organic acid solutions may produce spontaneous haemorrhaging, intravascular coagulation, gastrointestinal damage and oesophageal and pyloric stricture.

EYE

Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur. Dilute solutions of low-molecular organic acids cause conjunctival hyperaemia, prompt pain and corneal injury. The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

SKIN

Skin contact with the material may be harmful; systemic effects may result following absorption. Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis. if exposure is prolonged. Open cuts, abraded or irritated skin should not be exposed to this material. The material may accentuate any pre-existing skin condition. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

INHALED

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Not normally a hazard due to non-volatile nature of product. Inhalation hazard is increased at higher temperatures. Inhalation of vapour may result in nausea, headache. Inhalation of vapour may aggravate a pre-existing respiratory condition.

CHRONIC HEALTH EFFECTS

Primary route of exposure is usually by skin contact with the material. No human exposure data available. For this reason health effects described are based on

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Section 11 - TOXICOLOGICAL INFORMATION

experience with chemically related materials.

As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

TOXICITY AND IRRITATION

TOXICITY

Oral (rat) LD50: 3000 mg/kg

Dermal (rabbit) LD50: 1260 mg/kg

IRRITATION

Skin (rabbit): 10 mg/24h Mild

Skin (rabbit): 450 mg Open Mild

Eye (rabbit): 4.5 mg SEVERE

Section 12 - ECOLOGICAL INFORMATION

log Kow: 2.64

BCF: 183-53890

Section 13 - DISPOSAL CONSIDERATIONS

- Consult manufacturer for recycling options and recycle where possible .
- Consult State Land Waste Management Authority for disposal.
- Incinerate residue at an approved site.
- Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM: None

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:UN, IATA,
IMDG

Section 15 - REGULATORY INFORMATION

REGULATIONS

2-ethylhexoic acid (CAS: 149-57-5) is found on the following regulatory lists;
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk
OECD Representative List of High Production Volume (HPV) Chemicals

No data available for 2-ethylhexoic acid as CAS: 202054-39-5, CAS: 83829-68-9.

Section 16 - OTHER INFORMATION

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Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
2- ethylhexoic acid	149- 57- 5, 202054- 39- 5, 83829- 68- 9

The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose.

Issue Date: 24-Jun-2018