

Safety Data Sheet

#89985774 · Full 16-section SDS

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

PRODUCT	CAS NUMBER	FORMULA	VERSION	REVISION DATE
2-Ethylhexyl nitrate	27247-96-7	CH ₃ (CH ₂) ₃ CH(C ₂ H ₅)CH ₂ ONO ₂	10	13 Oct 2026

SECTION 1

Identification

1.1 Product identifier

Product name 2-Ethylhexyl nitrate

CAS number 27247-96-7

EC / EINECS number 248-363-6

Chemical formula CH₃(CH₂)₃CH(C₂H₅)CH₂ONO₂

Molecular weight 175.2255

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1.2 Relevant identified uses of the substance or mixture and uses advised against

Research and development. Laboratory Chemicals. Manufacture of substances.
Not suitable for human consumption or veterinary purposes.

1.3 Details of the supplier of the safety data sheet

Molekula Limited
1 Millennium Way, Newton Aycliffe
Durham, DL5 6JW, United Kingdom
info@molekula.com · +44 (0) 3302 000333

1.4 Emergency telephone number

0344 892 0111 — National Poisons Information Service (NPIS) (United Kingdom — for healthcare professionals (via TOXBASE))

SECTION 2

Hazard identification

2.1 Classification of the substance or mixture

Acute toxicity, oral (Category 4), H302

Acute toxicity, inhalation (Category 4), H332

Acute toxicity, dermal (Category 4), H312

Long-term (chronic) aquatic hazard (Category 2), H411

2.2 Label elements



WARNING

CODE	HAZARD STATEMENT
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EUH044	Risk of explosion if heated under confinement
EUH066	Repeated exposure may cause skin dryness or cracking
H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled
H411	Toxic to aquatic life with long lasting effects

CODE	PRECAUTIONARY STATEMENT
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P270	Do not eat, drink or smoke when using this product
P273	Avoid release to the environment
P280	Wear protective gloves/protective clothing/eye protection/face protection
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P302+352	IF ON SKIN: Wash with soap and water
P307+311	IF exposed: Call a POISON CENTER or doctor/physician

2.3 Other hazards

Contains no PBT/vPvB components or endocrine disruptors at levels of 0.1% or higher. This product does not contain any known or suspected Endocrine disruptors.

SECTION 3

Composition / information on ingredients

3.1 Substances

Name	2-Ethylhexyl nitrate
CAS number	27247-96-7
EC number	248-363-6
Concentration / purity	~100.0 %
Classification according to Regulation (EC) No 1272/2008	Acute toxicity, oral (Category 4), H302 Acute toxicity, inhalation (Category 4), H332 Acute toxicity, dermal (Category 4), H312 Long-term (chronic) aquatic hazard (Category 2), H411
Hazard statements	EUH044, EUH066, H302 + H312 + H332, H411
Acute toxicity estimate (ATE)	None reported
Impurities / stabilising additives	<i>Not applicable</i>

SECTION 4

First-aid measures

4.1 Description of first aid measures

Inhalation	Move to fresh air; give artificial respiration if breathing stops, oxygen if necessary; immediately call a physician.
Skin contact	Immediately remove all contaminated clothing, rinse skin with water/shower and consult a physician.
Eye contact	Rinse out with plenty of water and remove contact lenses.
Ingestion	Immediately make victim drink water (two glasses at most) and consult a physician.

Get medical attention if any discomfort continues. Show this Safety Data Sheet (SDS) to medical personnel. First aiders/ medical personnel need to protect themselves.

4.2 Most important symptoms and effects, both acute and delayed

Most important known symptoms and effects are described in the labelling (section 2.2) and/or section 11.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5

Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media Foam, carbon dioxide (CO₂), dry powder.

Unsuitable extinguishing media No limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Combustible

Carbon monoxide (CO)

Carbon dioxide (CO₂)

Vapours heavier than air may spread along floors or in the bottom of containers; forms explosive mixtures with air on intense heating.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus and wear suitable protective clothing; cool containers with water and prevent firefighting water from contaminating surface or ground water.

SECTION 6

Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapours/aerosols, avoid substance contact, ensure adequate ventilation, keep away from heat and ignition sources, and evacuate the danger area.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and material for containment and cleaning up

Cover drains; collect, bind and pump off spills; take up with liquid-absorbent material (e.g. Chemizorb®) and dispose of properly.

6.4 Reference to other sections

For specific precautions, see Section 8 and Section 13.

SECTION 7

Handling & storage

7.1 Precautions for safe handling

Work under hood, avoid generating vapours/aerosols, keep away from ignition sources and take precautionary measures against static discharge. Observe good chemical hygiene practices. Keep away from food, drink and animal feeding stuffs.

Wash contaminated skin thoroughly after handling. Do not eat, drink or smoke when using this product. Remove contaminated clothing and launder thoroughly before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Storage temperature	Ambient
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Conditions for safe storage (incompatibilities)	Keep container tightly closed; storage class 10 (combustible liquids).
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7.3 Specific end use(s)

See Section 1.2.

SECTION 8

Exposure controls / personal protection

8.1 Control parameters

Occupational exposure limits (OEL / WEL)	Contains no substances with occupational exposure limit values.
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DNEC/PNEC data	DNEL/DMEL: Not reported PNEC: Not reported
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8.2 Exposure controls

Eye / face protection	Safety glasses Wear eye/face protection as recommended. All eye/face protection should comply with EN ISO 16321-1:2022.
Skin / hand protection	Protective gloves.
Respiratory protection	Dust mask (FFP2/FFP3) Keep self-contained breathing apparatus readily available for emergency use. Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided. Respiratory equipment: Reusable Air-Purifying Respirator (APR). Filter type: ABEK. Standard: EN 14387.
Other protection	Protective clothing.
Environmental exposure controls	Do not let product enter drains.

SECTION 9

Physical & chemical properties

9.1 Information on basic physical and chemical properties

Appearance / physical state	Liquid DERIVED FROM: LITERATURE
Colour	Colorless, yellow DERIVED FROM: LITERATURE
Odour	Not known DERIVED FROM: LITERATURE
Melting / freezing point	< -50°C DERIVED FROM: LITERATURE
Boiling point	No data available
Flammability	Not applicable
Lower and upper explosion limit	No data available
Flash point	76 °C DERIVED FROM: LITERATURE
Auto-ignition temperature	187-215 °C DERIVED FROM: LITERATURE
Decomposition temperature	No data available
pH	No data available
Acidity	Neutral DERIVED FROM: LITERATURE
Kinematic viscosity	Kinematic: no data available; dynamic: 1.7 mPa.s at 20 °C (ASTM D 445) DERIVED FROM: LITERATURE
Solubility	Water: 0.0125 g/l at 20 °C - slightly soluble DERIVED FROM: LITERATURE
Partition coefficient n-octanol/water (log value)	log Pow: 5.24 DERIVED FROM: LITERATURE

Vapour pressure	0.047 hPa DERIVED FROM: LITERATURE
Density (g/mL)	0.963 g/mL DERIVED FROM: LITERATURE
Relative vapour density	No data available
Particle characteristics	No data available

9.2 Other information

No data available

SECTION 10

Stability & reactivity

10.1 Reactivity

Forms explosive mixtures with air on intense heating; risk of explosion if heated under confinement; range from approx. 15 K below the flash point is critical.

10.2 Chemical stability

Stable under the prescribed storage conditions

10.3 Possibility of hazardous reactions

None under normal processing

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

Organic materials, powdered metals, strong oxidizing agents

10.6 Hazardous decomposition products

See section 5

SECTION 11

Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (LD50 / LC50)	LD50 Oral - Rat - 960 mg/kg LC50 Inhalation - 4 h - 11 mg/l (vapor) LD50 Dermal - 1,100 mg/kg (acute toxicity estimate)
Skin corrosion / irritation	Skin - Rabbit: No skin irritation - 4 h
Eye corrosion / irritation	No data available
Respiratory / skin sensitisation	Maximization test - Guinea pig: does not cause skin sensitization
Carcinogenicity	No data available
Mutagenicity	Ames test (S. typhimurium, with and without metabolic activation: negative

Reproductive toxicity	<i>No data available</i>
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STOT (single / repeated exposure)	<i>No data available</i>
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Aspiration hazard	<i>No data available</i>
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11.2 Information on other hazards

Does not contain components considered to have endocrine disrupting properties at levels of 0.1% or higher.

SECTION 12

Ecological information

12.1 Toxicity

Fish

LC50 (Danio rerio) 2 mg/l 96 h

Crustacea

Daphnia magna EC50 >12.6 mg/l 48 h

Algae

EC50 (Pseudokirchneriella subcapitata) 3.22 mg/l 72 h

bacteria EC50 >1,000 mg/l 3 h

12.2 Persistence and degradability

Aerobic, 28 d: 0% - not readily biodegradable (OECD 310)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Contains no components considered PBT or vPvB at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

See Section 11.2.

12.7 Other adverse effects

No data available

SECTION 13

Disposal considerations

13.1 Waste treatment methods

Dispose of in accordance with local/national regulations

SECTION 14

Transport information**14.1 UN number or ID number**

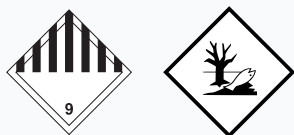
UN3082

14.2 UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

14.3 Transport hazard class(es)

9

**14.4 Packing group**

III

14.5 Environmental hazards

ADR/RID: yes; IMDG Marine pollutant: yes; IATA: yes

14.6 Special precautions for user

Special precautions for user	Tunnel restriction code (-); EHS-Mark required (ADR 2.2.9.1.10, IMDG 2.10.3) for packagings with liquids >5 L or solids >5 kg.
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Transport category	3
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Tunnel code	-
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Packing instruction (ADR)	P001
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Packing instruction (IMDG)	P001
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14.7 Maritime transport in bulk according to IMO instruments*No data available*

SECTION 15

Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Substance-specific regulations (e.g. licences)	Seveso III (Directive 2012/18/EU): E2 Environmental hazards; observe maternity protection Dir 92/85/EEC and young people at work Dir 94/33/EC.
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REACH code	Y110
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ECHA notification	<i>Not applicable</i>
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15.2 Chemical safety assessment

No

SECTION 16

Other information

Revision notes / other information

This version (v10) is the first version of this SDS and was created on 12.10.2026

H302, H312, H332, H411, EUH044 (risk of explosion if heated under confinement), EUH066 (repeated exposure may cause skin dryness or cracking).

This Safety Data Sheet was generated automatically from the data Molekula holds against this product, in the 16-section GHS/CLP format. Fields shown as "No data available" carry no recorded value; fields shown as "Not applicable" were assessed as not relevant to this substance. For queries, contact Molekula at info@molekula.com.