

Safety Data Sheet

#24366220 · 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
D-Isoleucine	319-78-8	C ₂ H ₅ CH(CH ₃)CH(NH ₂)CO ₂ H	10	19 Aug 2026

SECTION 1

Identification

Product name	D-Isoleucine
CAS number	319-78-8
Chemical formula	C ₂ H ₅ CH(CH ₃)CH(NH ₂)CO ₂ H
Molecular weight	131.17
SMILES	[C@@H]([C@@H](CC)C)(C(O)=O)N
EC / EINECS number	206-269-2
Recommended use & restrictions	For research and development. Laboratory chemicals. Manufacture of substances. Not suitable for human or veterinary purposes.
Emergency telephone	0344 892 0111 — National Poisons Information Service (NPIS) (United Kingdom — for healthcare professionals (via TOXBASE))

SECTION 2

Hazard identification



WARNING

CODE	HAZARD STATEMENT
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
CODE	PRECAUTIONARY STATEMENT
P261	Avoid breathing dust/fume/gas/mist/vapours/spray
P264	Wash thoroughly after handling
P280	Wear protective gloves/protective clothing/eye protection/face protection
P302+P352	IF ON SKIN: Wash with soap and water
P305+P351+P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do, continue rinsing
P308+P313	IF exposed or concerned: Get medical advice/attention
Other hazards (e.g. PBT / vPvB, not classified)	This product does not contain any known or suspected Endocrine disruptors.

SECTION 3

Composition / information on ingredients

Purity / concentration	~100.0
Impurities / stabilising additives	Not applicable

SECTION 4

First-aid measures

Inhalation	Fresh air. Remove person to fresh air and keep comfortable for breathing. In case of persistent throat irritation or coughing: seek medical attention.
Skin contact	Rinse skin with water. If skin irritation or rash occurs: get medical advice/attention.
Eye contact	Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.
Ingestion	Drink water (two glasses max); consult doctor if unwell
Symptoms / effects & medical attention	Treat symptomatically.

SECTION 5

Fire-fighting measures

Suitable extinguishing media	Foam, carbon dioxide, dry powder or water fog
Unsuitable extinguishing media	No specific firefighting procedure given
Special hazards	Carbon monoxide (CO) Carbon dioxide (CO ₂) Nitrogen oxides (NO _x)
Advice for firefighters	Use self-contained breathing apparatus; suppress gases/vapors with water spray

SECTION 6

Accidental release measures

Personal precautions & PPE	Avoid dust inhalation; evacuate danger area; wear PPE (see Section 8)
Environmental precautions	Do not let product enter drains
Containment & clean-up methods	Cover drains; collect, bind, and pump off spills; dispose properly; avoid dust generation

For specific precautions, see Section 8 and Section 13.

SECTION 7

Handling & storage

Storage temperature	Ambient
Precautions for safe handling	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.
Conditions for safe storage (incompatibilities)	Tightly closed; dry; Store under TRGS 510 Class 11 (Combustible Solids)

SECTION 8

Exposure controls / personal protection

Occupational exposure limits (OEL / WEL) *Not applicable*

DNEC/PNEC data *Not applicable*

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 Nitrile rubber gloves
Thickness: 0.11mm
Breakthrough time: 480mins.

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.

SECTION 9

Physical & chemical properties

Density (g/mL) 1 g/mL
DERIVED FROM: LITERATURE

Flash point *Not applicable*

Acidity Neutral
DERIVED FROM: LITERATURE

Appearance / physical state Solid
DERIVED FROM: LITERATURE

Colour Off-white
DERIVED FROM: LITERATURE

Odour Odourless
DERIVED FROM: LITERATURE

Melting / freezing point 272 - 274 °C
DERIVED FROM: LITERATURE

Boiling point *No data available*

Solubility (water) 41.2 g/L (25°C)
DERIVED FROM: LITERATURE

pH *No data available*

Vapour pressure *No data available*

Partition coefficient (log Pow) *No data available*

Auto-ignition / decomposition temp *No data available*

SECTION 10

Stability & reactivity

Chemical stability / reactivity	Stable under the prescribed storage conditions
Conditions to avoid	None known
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	See section 5

SECTION 11

Toxicological information

Acute toxicity (LD50 / LC50)	LD50 Oral - Rat - female - > 2,000 mg/kg LC50 Inhalation - Rat - > 5.4 mg/L (4 h)- aerosol Remarks: The value is given in analogy to the following substances: L-isoleucine
Skin corrosion / irritation	May cause skin irritation
Eye corrosion / irritation	May cause eye irritation
Respiratory / skin sensitisation	Negative (LLNA, Mouse) Remarks: The value is given in analogy to the following substances: L-isoleucine
Carcinogenicity	<i>No data available</i>
Mutagenicity	Test Type: In vitro mammalian cell gene mutation test Test system: mouse lymphoma cells Metabolic activation: with and without metabolic activation Result: negative Remarks: The value is given in analogy to the following substances: L-isoleucine Test Type: Chromosome aberration test in vitro Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Result: negative Remarks: The value is given in analogy to the following substances: L-isoleucine Test Type: Ames test Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative Remarks: The value is given in analogy to the following substances: L-isoleucine
Reproductive toxicity	<i>No data available</i>
STOT (single / repeated exposure)	<i>No data available</i>
Aspiration hazard	<i>No data available</i>
Endocrine disruptors	Not considered to be an endocrine disruptor

SECTION 12

Ecological information**Aquatic toxicity**

semi-static test LC50 - Danio rerio (zebra fish) - > 10,000 mg/l - 96 h
Remarks: The value is given in analogy to the following substances: L-isoleucine

Toxicity to Algae

static test ErC50 - Scenedesmus capricornutum (fresh water algae) - > 10,000 mg/l - 71.5 h

Remarks: The value is given in analogy to the following substances: L-isoleucine

Persistence & degradability	<i>No data available</i>
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Bioaccumulative potential	<i>No data available</i>
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Mobility in soil	<i>No data available</i>
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PBT / vPvB assessment	<i>No data available</i>
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SECTION 13

Disposal considerations

Waste treatment / disposal methods	<i>Not applicable</i>
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SECTION 14

Transport information

UN number	<i>Not applicable</i>
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Proper shipping name	<i>Not applicable</i>
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Class	<i>Not applicable</i>
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Packing group	<i>Not applicable</i>
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Transport category	<i>Not applicable</i>
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Tunnel code	<i>Not applicable</i>
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Packing instruction (ADR)	<i>Not applicable</i>
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Packing instruction (IMDG)	<i>Not applicable</i>
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Environmental hazards	<i>Not applicable</i>
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Special precautions for user	<i>Not applicable</i>
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SECTION 15

Regulatory information

REACH code Y113

UFI code *Not applicable*

ECHA notification *Not applicable*

Chemical safety assessment carried out? *Not applicable*

SECTION 16

Other information

Revision notes / other information *Not applicable*

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