

Safety Data Sheet

#25012998 · 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
Acridine orange (C.I. 46005)	10127-02-3	C ₁₇ H ₂₀ Cl ₃ N ₃ Zn	10	11 Aug 2026

SECTION 1

Identification

1.1 Product identifier

Product name	Acridine orange (C.I. 46005)
CAS number	10127-02-3
EC / EINECS number	233-353-6
Chemical formula	C ₁₇ H ₂₀ Cl ₃ N ₃ Zn
Molecular weight	438.1
SMILES	CN(C)C1=CC2=C(C=C1)C=C3C=CC(=CC3=N2)N(C)C.Cl.[Cl-].[Cl-].[Zn+2]

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

For research use only. Not for human or veterinary use.

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

Muta. 2; H341

2.2 Label elements



WARNING

CODE	HAZARD STATEMENT
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H341	Suspected of causing genetic defects
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CODE	PRECAUTIONARY STATEMENT
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P260	Do not breathe dust/fume/gas/mist/vapours/spray
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P280	Wear protective gloves/protective clothing/eye protection/face protection
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P405	Store locked up
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P501	Dispose of contents/container to an approved waste disposal plant
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2.3 Other hazards

Does not contain components considered to be persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB).

Does not contain components considered to have endocrine-disrupting properties.

Does not meet PBT or vPvB criteria under REACH Annex XIII.

SECTION 3

Composition / information on ingredients

3.1 Substances

Name	Acridine orange (C.I. 46005)
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CAS number	10127-02-3
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EC number	233-353-6
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Concentration / purity	c. 100% Acridine Orange (C.I. 46005) (CAS: 10127-02-3)- H
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Classification according to Regulation (EC) No 1272/2008	Muta. 2; H341
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Hazard statements	H341
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Acute toxicity estimate (ATE)	No data available
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Impurities / stabilising additives	None
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SECTION 4

First-aid measures

4.1 Description of first aid measures

Inhalation	Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration.
Skin contact	Wash with plenty of soap and water. Get medical advice/attention if you feel unwell.
Eye contact	Remove contact lenses if present. Rinse eyes with water. If eye irritation persists: get medical advice/attention.
Ingestion	After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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

See 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	For this substance/mixture no limitations of extinguishing agents are given.
Unsuitable extinguishing media	None known

5.2 Special hazards arising from the substance or mixture

Carbon oxides
Nitrogen oxides (NO_x)
Hydrogen chloride gas
Zinc/zinc oxides

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6

Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing dust/fume/gas/mist/vapours/spray. Provide adequate ventilation. For personal protection, see section 8.

6.2 Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

6.3 Methods and material for containment and cleaning up

Absorb spillage with a suitable absorbent material.

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

Wear protective clothing, gloves, eye and face protection. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

7.2 Conditions for safe storage, including any incompatibilities

Storage temperature	Ambient
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Conditions for safe storage (incompatibilities)	Hygroscopic. Store under inert gas.
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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)	Not applicable
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DNEC/PNEC data	Not applicable
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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	Nitrile gloves Thickness: 0.11mm. Breakthrough time: 480mins.
Respiratory protection	Full-face respirator 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	<i>No data available</i>
Environmental exposure controls	<i>No data available</i>

SECTION 9

Physical & chemical properties

9.1 Information on basic physical and chemical properties

Appearance / physical state	Solid DERIVED FROM: LITERATURE
Colour	Dark red-brown DERIVED FROM: LITERATURE
Odour	Not known DERIVED FROM: LITERATURE
Melting / freezing point	165°C DERIVED FROM: LITERATURE
Boiling point	<i>Not applicable</i>
Flammability	<i>No data available</i>
Lower and upper explosion limit	<i>No data available</i>
Flash point	<i>Not applicable</i>
Auto-ignition temperature	<i>Not applicable</i>
Decomposition temperature	<i>No data available</i>
pH	<i>Not applicable</i>
Acidity	Neutral DERIVED FROM: LITERATURE
Kinematic viscosity	<i>No data available</i>
Solubility	<i>Not applicable</i>
Partition coefficient n-octanol/water (log value)	<i>Not applicable</i>
Vapour pressure	<i>Not applicable</i>
Density (g/mL)	1 g/mL DERIVED FROM: LITERATURE

Relative vapour density	No data available
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Particle characteristics	No data available
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9.2 Other information

No data available

SECTION 10

Stability & reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under the prescribed storage conditions

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Avoid moisture

10.5 Incompatible materials

Strong oxidising 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)	Information on hazard classes as defined in Regulation (EC) No 1272/2008
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Skin corrosion / irritation	Not classified
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Eye corrosion / irritation	Not classified
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Respiratory / skin sensitisation	Not classified
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Carcinogenicity	Suspected of causing genetic defects
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Mutagenicity	Not applicable
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Reproductive toxicity	Not applicable
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STOT (single / repeated exposure)	Not classified
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Aspiration hazard	Not classified
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11.2 Information on other hazards

Not classified

SECTION 12

Ecological information

12.1 Toxicity

Not applicable

12.2 Persistence and degradability

Not applicable

12.3 Bioaccumulative potential

Not applicable

12.4 Mobility in soil

Not applicable

12.5 Results of PBT and vPvB assessment

Not applicable

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

Not applicable

14.2 UN proper shipping name

Not applicable

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable

14.5 Environmental hazards

Not applicable

14.6 Special precautions for user

Special precautions for user *Not applicable*

Transport category *Not applicable*

Tunnel code *Not applicable*

Packing instruction (ADR) *Not applicable*

Packing instruction (IMDG) *Not applicable*

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) *No data available*

REACH code Y110

ECHA notification *Not applicable*

15.2 Chemical safety assessment

Not applicable

SECTION 16

Other information

Revision notes / other information

Hazard classification and labelling according to Regulation (EC)1272/2008
All eye/face protection should comply with EN ISO 16321-1:2022
Respiratory equipment: Reusable air-purifying respirator (APR)
Filter Type: ABEK
Standard: EN 14387
National Regulations:
-Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances
Other regulations, limitations and legal regulations:
-Directive 94/33/EC- The protection of young people at work

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.