
1. Identification**1.1 GHS Product identifier**

Product name 9,10-anthraquinone

1.2 Other means of identification

Product number AC1282

Other names anthraquinone

1.3 Recommended use of the chemical and restrictions on use

Identified uses For industry use only. Dyes, Processing aids, not otherwise listed, Surface active agents

Uses advised against no data available

1.4 Supplier's details

Company Acros PharmaTech Limited

Address HongKong: Unit 3A-8, 12/F, Kaiser Centre, No. 18 Centre Street, Sai Ying Pun, HongKong
Mainland: Suite 920, Changwu Road 888, Changzhou, Jiangsu, China

Telephone 86(519)85265509

2. Hazard identification**2.1 Classification of the substance or mixture**

Skin sensitization, Category 1

2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Warning

Hazard statement(s)

H317 May cause an allergic skin reaction

Precautionary statement(s)

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

Prevention

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 water/...

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

Response

P321 Specific treatment (see ... on this label).

P362+P364 Take off contaminated clothing and wash it before reuse.

Storage

none

Disposal

P501 Dispose of contents/container to ...

2.3 Other hazards which do not result in classification

none

3. Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
9,10-anthraquinone	9,10-anthraquinone	84-65-1	none	≥95%

4. First-aid measures

4.1 Description of necessary first-aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

Fresh air, rest.

In case of skin contact

Rinse and then wash skin with water and soap.

In case of eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

If swallowed

Rinse mouth.

4.2 Most important symptoms/effects, acute and delayed

SYMPTOMS: Symptoms following exposure to this compound may include skin and eye irritation, allergic skin reaction and skin sensitization. It may cause discoloration of the urine. **ACUTE/CHRONIC HAZARDS:** This chemical may cause skin and eye irritation and sensitization. It may be harmful by inhalation, ingestion or skin absorption. When heated to decomposition it emits toxic fumes of carbon monoxide and carbon dioxide.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if needed. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary Monitor for shock and treat if necessary Anticipate seizures and treat if necessary For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport Do not use emetics. For ingestion, rinse mouth and administer 5 ml/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool Cover skin burns with dry sterile dressings after decontamination /Poison A and B/

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

To fight fire use water, foam, carbon dioxide, water spray or mist, dry chemical.

5.2 Specific hazards arising from the chemical

This chemical is combustible.

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in an area without drain or sewer access.

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived

from it.

Respiratory protection

Wear dust mask when handling large quantities.

Thermal hazards

no data available

9. Physical and chemical properties

Physical state	dull yellow powder
Colour	Light yellow, slender monoclinic prisms by sublimation in vacuo. Almost colorless, orthorhombic, bipyramidal crystals from sulfuric acid and water.
Odour	Aromatic odor (technical)
Melting point/ freezing point	284°C(lit.)
Boiling point or initial boiling point and boiling range	380°C(lit.)
Flammability	Combustible.
Lower and upper explosion limit / flammability limit	no data available
Flash point	86°C(lit.)
Auto-ignition temperature	650°C
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	less than 1 mg/mL at 22.78°C
Partition coefficient n-octanol/water (log value)	log Kow = 3.39
Vapour pressure	1 mm Hg (190 °C)
Density and/or relative density	1.438
Relative vapour density	7.16 (vs air)
Particle characteristics	no data available

10. Stability and reactivity**10.1 Reactivity**

no data available

10.2 Chemical stability

Stable to acids and alkalis.

10.3 Possibility of hazardous reactions

Combustible when exposed to heat or flame. ANTHRAQUINONE is incompatible with strong oxidizing agents.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

... Decomposed by hydrogen peroxide and ferrous sulphate at pH 4.5 /Anthraquinone-dyes/

10.6 Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes.

11. Toxicological information**Acute toxicity**

- Oral: LD50 Rat oral >5000 mg/kg bw
- Inhalation: LC50 Rat inhalation >1.327 mg/L/4 hr
- Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

12. Ecological information**12.1 Toxicity**

- Toxicity to fish: LC50 *Lepomis macrochirus* (Bluegill) >5 mg/L/24 hr; Static
- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

12.2 Persistence and degradability

AEROBIC: Anthraquinone (at 10 mg/L organic carbon), inoculated with activated sludge, reached 28% of the theoretical CO₂ within 28 days(1). 52.3% of the initial concn of anthraquinone (100 mg/L) was biodegraded by an activated sludge inoculum

(time = 3 weeks)(2). Biodegradation of anthraquinone was measured using three standard tests (each using activated sludge inocula)(3). Over a 20 day period, 51-91%, 81-93%, and 70% of the added anthraquinone was biodegraded in the Sturm test, MITI test, and the RDA test, respectively(3). Anthraquinone (at 100 mg/L) was biodegraded by 46% over a 28 day period (UK-MITI test); a lag time of about 7 days was observed(4). Varying activated sludge inoculum sizes had little impact on the final oxidation of anthraquinone; 40-60% oxidation at 56 days was seen for all inoculum levels(5).

12.3 Bioaccumulative potential

An estimated BCF of 12 was calculated for anthraquinone(SRC), using a log Kow of 3.39(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

12.4 Mobility in soil

Using an HPLC screening technique and five European reference soils, Koc values ranging from 2,755 to 17,416 were determined for anthraquinone(1). According to a suggested classification scheme(2), these Koc values suggest that anthraquinone has slight mobility or is immobile in soil(SRC). Laboratory trials with BBA soils did not reveal any leaching potential(3). Results of a 23-day soil column leaching study have shown that anthraquinone has the potential to reach ground water under recharge conditions similar to those in arid and semi-arid climates(4).

12.5 Other adverse effects

no data available

13. Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14. Transport information

14.1 UN Number

ADR/RID: UN3077 IMDG: UN3077 IATA: UN3077

14.2 UN Proper Shipping Name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

14.3 Transport hazard class(es)

ADR/RID: 9 IMDG: 9 IATA: 9

14.4 Packing group, if applicable

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID: no IMDG: no IATA: no

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

15. Regulatory information**15.1 Safety, health and environmental regulations specific for the product in question**

Chemical name	Common names and synonyms	CAS number	EC number
9,10-anthraquinone	9,10-anthraquinone	84-65-1	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Not Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

16. Other information**Abbreviations and acronyms**

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>



SAFETY DATA SHEET

According to Globally Harmonized System of Classification
and Labelling of Chemicals (GHS) - Sixth revised edition

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information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.

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