

1 Identification of substance**Product details**

Trade name

Hydroquinone

Stock number:

A11411
L02558

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
Zeppelinstrasse 7
D-76185 Karlsruhe / GermanyE-mail: gcat@matthey.com
www.alfa-chemcat.com

Informing department:

Product safety department.
Giftnotruf Universität Mainz / Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telefon:+49(0)6131/19240

Emergency information:

2 Hazards identification

Hazard designation:

Xn Harmful
N Dangerous for the environmentInformation pertaining to particular dangers
for man and environmentR 22 Harmful if swallowed.
R 40 Limited evidence of a carcinogenic effect.
R 41 Risk of serious damage to eyes.
R 43 May cause sensitisation by skin contact.
R 68 Possible risk of irreversible effects.
R 50 Very toxic to aquatic organisms.

GHS label elements

**Danger**

H318 - Causes serious eye damage.

**Warning**H341 - Suspected of causing genetic defects.
H351 - Suspected of causing cancer.**Warning**

H400 - Very toxic to aquatic life.

**Warning**H302 - Harmful if swallowed.
H317 - May cause an allergic skin reaction.
P273 Avoid release to the environment.

Prevention:

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

3 Composition/information on ingredients

Chemical characterization:

Designation: (CAS#)

Hydroquinone (CAS# 123-31-9)

Identification number(s):

EINECS Number:

204-617-8

Index number:

604-005-00-4

4 First aid measures

After inhalation

Supply fresh air and call for doctor for safety reasons.
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.
Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.

After swallowing

Rinse opened eye for several minutes under running water. Then consult doctor.
Seek immediate medical advice.**5 Fire fighting measures**Suitable extinguishing agents
Special hazards caused by the material, its
products of combustion or flue gases:CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

Protective equipment:

Can be released in case of fire:
Carbon monoxide and carbon dioxide
Wear self-contained breathing apparatus.
Wear full protective suit.**6 Accidental release measures**

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Dispose of contaminated material as waste according to item 13.

Additional information:

See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.**7 Handling and storage**

Handling

Information for safe handling:

Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.Information about protection against
explosions and fires:

Keep ignition sources away - Do not smoke.

Storage

Requirements to be met by storerooms and
containers:

No special requirements.

Information about storage in one common
storage facility:

Store away from oxidizing agents.

Further information about storage
conditions:

Keep container tightly sealed.

Trade name **Hydroquinone**

Store in cool, dry conditions in well sealed containers.

(Contd. of page 1)

8 Exposure controls and personal protection**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with critical values that require monitoring at the workplace:

Hydroquinone
mg/m³

ACGIH TLV	2; Confirmed animal carcinogen w/ unknown
Austria MAK	2
Belgium TWA	2
Denmark TWA	2
Finland TWA	2; 4-STEL (skin)
France VME	2
Germany	Carcinogen
Korea TLV	2; Confirmed animal carcinogen w/ unknown
Netherlands MAC-TGG	2
Poland TWA	2; 4-STEL
Sweden NGV	0.5; 1.5-KTV
Switzerland MAK-W	2; 4-KZG-W
United Kingdom	2=LTEL; 4-STEL
USA PEL	2

Additional information:

No data

Personal protective equipment**General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes.

Use breathing protection with high concentrations.

Check protective gloves prior to each use for their proper condition.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Impervious gloves

Not determined

Safety glasses

Tightly sealed safety glasses.

Protective work clothing.

Breathing equipment:**Protection of hands:****Material of gloves****Penetration time of glove material****Eye protection:****Body protection:****9 Physical and chemical properties:****General Information**

Form: Crystalline
Colour: White
Smell: Odourless

Change in condition

Melting point/Melting range: 172-175°C
Boiling point/Boiling range: 287°C
Sublimation temperature / start: Not determined

Flash point: 165°C**Ignition temperature:** 515°C**Decomposition temperature:** Not determined**Danger of explosion:** Product is not explosive.**Critical values for explosion:**

Lower: Not determined
Upper: Not determined

Steam pressure: Not determined**Density at 20°C** 1.33 g/cm³**Solubility in / Miscibility with Water at 20°C:** 70 g/l**pH-value (70 g/l) at 20°C:** 3.75**10 Stability and reactivity****Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

Materials to be avoided:

Oxidizing agents

Dangerous reactions:

No dangerous reactions known

Dangerous products of decomposition:

Carbon monoxide and carbon dioxide

11 Toxicological information**Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral	LD50	245 mg/kg (mouse)
		302 mg/kg (rat)
Dermal	LDLo	29 mg/kg (human)
	LD50	5970 mg/kg (mam)
Irritation of skin		>900 mg/kg (rat)
	mild	2 % (human)

Primary irritant effect:**on the skin:**

May cause irritation

on the eye:

Strong irritant with the danger of severe eye injury.

Sensitization:

Sensitization possible by skin contact.

Other information (about experimental toxicology):

Tumorigenic effects have been observed on tests with laboratory animals.

Reproductive effects have been observed on tests with laboratory animals.

(Contd. on page 3)

Safety Data Sheet
according to 1907/2006/EC, Article 31

Revision: 21.12.2009

Printing date 21.12.2009

Trade name **Hydroquinone**

(Contd. of page 2)

Additional toxicological information:

Mutagenic effects have been observed on tests with human lymphocytes.
Mutagenic effects have been observed on tests with laboratory animals.
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
IARC-3: Not classifiable as to carcinogenicity to humans.
ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) not considered relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans.
Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.
May cause sensitisation by skin contact.

Sensitisation**12 Ecological information:**
Ecotoxicological effects:
Remark:
General notes:

Very toxic for fish
Water danger class 3 (Self-assessment): extremely hazardous for water.
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into soil.
Also poisonous for fish and plankton in water bodies.
Do not allow material to be released to the environment without proper governmental permits.
Very toxic for aquatic organisms

13 Disposal considerations
Product:
Recommendation

Consult state, local or national regulations for proper disposal.
Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.

Uncleaned packagings:
Recommendation:

Disposal must be made according to official regulations.

14 Transport information**Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**

ADR/RID-GGVS/E Class: 9 (M7) Miscellaneous dangerous substances and articles.
UN-Number: 3077
Packaging group: III
Label: 9
Special marking: Symbol (fish and tree)
Designation of goods: 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Hydroquinone)
Limited quantities (LQ): LQ27
Transport category: 3
Tunnel restriction code: E

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class: 9
UN Number: 3077
Label: 9
Packaging group: III
Marine pollutant: Yes (P)
Correct technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Hydroquinone)

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 9
UN/ID Number: 3077
Label: 9
Special marking: Symbol (fish and tree)
Packaging group: III
Correct technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Hydroquinone)

UN "Model Regulation":

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III

15 Regulatory information**Designation according to EC guidelines:**
Code letter and hazard designation of product:

Xn Harmful
N Dangerous for the environment

Risk phrases:

22 Harmful if swallowed.
40 Limited evidence of a carcinogenic effect.
41 Risk of serious damage to eyes.
43 May cause sensitisation by skin contact.
68 Possible risk of irreversible effects.
50 Very toxic to aquatic organisms.

Safety phrases:

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
61 Avoid release to the environment. Refer to special instructions/safety data sheets.

National regulations**Information about limitation of use:**

Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.

(Contd. on page 4)

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(Contd. of page 3)

Water hazard class: Water danger class 3 (Self-assessment): extremely hazardous for water.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.

Contact: Zachariah Holt

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
P: Marine Pollutant
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

GB