

Material Safety Data Sheet

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Version 1.1

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

Product Name	TETRACHLORO-1,4-BENZOQUINONE, 99%
Product Number	232017
Company	Sigma-Aldrich Pty, Ltd Unit 2, 14 Anella Avenue Castle Hill NSW 1765 Australia
Technical Phone #	+61 2 9841 0555
Fax	+61 2 9841 0500
Emergency Phone #	+61 2 9841 0566

2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
CHLORANIL	118-75-2	204-274-4	602-066-00-1
Formula	C6Cl4O2		
Molecular Weight	245.88 AMU		
Synonyms	1,4-Benzoquinone, 2,3,5,6-tetrachloro- * Chloranil * Dow Seed Disinfectant No. 5 * ENT 3,797 * G-25804 * G-444E * Geigy-444E * Reranil * Spergon * Spergon I * Spergon technical * Tetrachlorobenzoquinone * Tetrachloro-p-benzoquinone * Tetrachloro-1,4-benzoquinone * 2,3,5,6-Tetrachloro-p-benzoquinone * 2,3,5,6-Tetrachloro-1,4-benzoquinone * 2,3,5,6-Tetrachloro-2,5-cyclohexadiene-1,4-dione * Tetrachloroquinone * Tetrachloro-p-quinone * Vulklor		

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Irritating to eyes and skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious amounts of water.

AFTER EYE CONTACT

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

5 - Fire Fighting Measures

EXPLOSION DATA

Dust Potential: This material, like most materials in powder form, is capable of creating a dust explosion.

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Avoid inhalation. Do not get in eyes, on skin, on clothing.

STORAGE

Conditions of Storage: Keep tightly closed. Store in a cool dry place.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT

Hand Protection: Rubber gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance

Color: Deep yellow

Form: Fine crystals

Property

Value

At Temperature or Pressure

pH	N/A
BP/BP Range	N/A
MP/MP Range	295 °C
Flash Point	N/A
Flammability	N/A
Autoignition Temp	N/A
Oxidizing Properties	N/A
Explosive Properties	N/A
Explosion Limits	N/A
Vapor Pressure	N/A
SG/Density	N/A
Partition Coefficient	N/A
Viscosity	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
Evaporation Rate	N/A
Bulk Density	N/A
Decomposition Temp.	N/A
Solvent Content	N/A
Water Content	N/A
Surface Tension	N/A
Conductivity	N/A
Miscellaneous Data	N/A
Solubility	N/A

10 - Stability and Reactivity

STABILITY

Materials to Avoid: Strong oxidizing agents, Strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

11 - Toxicological Information

RTECS NUMBER: DK6825000

ACUTE TOXICITY

LD50
Oral
Rat
4000 mg/kg

LC50
Inhalation
Rat
2,485 mg/m3
4H

Remarks: Behavioral:Somnolence (general depressed activity).
Lungs, Thorax, or Respiration:Structural or functional change in
trachea or bronchi. Nutritional and Gross Metabolic:Weight loss
or decreased weight gain.

LD50
Intraperitoneal
Rat
500 MG/KG

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and
toxicological properties have not been thoroughly investigated.

ROUTE OF EXPOSURE

Inhalation: Material is irritating to mucous membranes and upper respiratory tract.

Multiple Routes: May be harmful by inhalation, ingestion, or skin absorption. Causes eye and skin irritation.

TARGET ORGAN INFORMATION

Liver.

CHRONIC EXPOSURE - CARCINOGEN

Mouse

Route of Application: Oral

Exposure Time: 78W

Result: Tumorigenic:Neoplastic by RTECS criteria. Liver:Tumors.

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 3077

Class: 9

PG: III

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s

IMDG

UN#: 3077

Class: 9

PG: III

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s

Marine Pollutant: No

Severe Marine Pollutant: Yes

Technical Name: Required

IATA

UN#: 3077

Class: 9

PG: III

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s

Inhalation Packing Group I: No

Technical Name: Required

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 602-066-00-1

INDICATION OF DANGER: Xi N

Irritant. Dangerous for the environment.

R-PHRASES: 36/38 50/53

Irritating to eyes and skin. Very toxic to aquatic organisms,

may cause long-term adverse effects in the aquatic environment.
S-PHRASES: 37 60 61

Wear suitable gloves. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 2

SWITZERLAND

SWISS POISON CLASS: 4

16 - Other Information

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The 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. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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