



Qualikems

Qualikems Lifesciences Pvt. Ltd.

(Formerly known as Qualikems fine chem Pvt Ltd)

Works : Plot No. 68-69,G.I.D.C Industrial Estate,Nandesari,Vadodara-391340 (Gujarat)

Telefax : 91-265-2841531,2841532,2841534,2841535.

Sales Office : 5531,Basti Harphool singh Sadar Thana Road, Delhi-110006

Tel : +91-11-23618475/23618476,Fax:+91-11-23678476

Email: salesindia@qualikems.com ,www.qualikems.com

Material Safety Data Sheet

Congo Red

Section 1 - Chemical Product and Company Identification

MSDS Name: Congo Red

Synonyms: C.I. Direct Red 28; Atlantic Congo Red; C.I. 22120; Diacotton Congo Red; Benzo Congo Red.

Identified uses : Laboratory chemicals, Industrial & for professional use only.

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
573-58-0	C.I. Direct Red 28	100	209-358-4

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: dark red-brown solid.

Warning! Causes eye irritation. May cause skin and respiratory tract irritation.

Possible risk of harm to the unborn child. May cause cancer in humans.

Target Organs: Bladder.

Potential Health Effects

Eye: Causes eye irritation.

Skin: May cause skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation: May cause respiratory tract irritation.

Chronic: This product is a chemical derivative of benzidine, a known human carcinogen. This substance has caused adverse reproductive and fetal effects in laboratory animals. The primary target organs for carcinogenicity induced by benzidine vary with species. Rats, mice, and hamsters develop liver and mammary tumors. Dogs and humans develop increased incidences of urinary bladder cancer.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid.

Skin: In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 1; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage: Store in a cool, dry place. Keep containers tightly closed.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
C.I. Direct Red 28	none listed	none listed	none listed

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: dark red-brown

Odor: odorless

pH: 8-9.5 (aq soln)

Vapor Pressure: Negligible.

Vapor Density: Not available.

Evaporation Rate: Negligible.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: > 360 deg C

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: Not available.

Molecular Formula: C₃₂H₂₂N₆O₆S₂Na₂

Molecular Weight: 696.67

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. Materials containing similar functional groups can decompose at elevated temperatures.

Conditions to Avoid: Dust generation, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids.

Hazardous Decomposition Products: Carbon monoxide, oxides of nitrogen, oxides of sulfur, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 573-58-0: QK1400000

LD50/LC50:

CAS# 573-58-0:

Draize test, rabbit, eye: 100 mg Moderate;

Oral, rat: LD50 = 15200 mg/kg;

Carcinogenicity:
CAS# 573-58-0:

- **ACGIH:** Not listed.
- **California:** carcinogen, initial date 10/1/92 (listed as Benzidine based dyes).
- **NTP:** Known carcinogen (listed as Benzidine based dyes).
- **IARC:** Group 2A carcinogen (listed as Benzidine based dyes).

Epidemiology: A strong association relating human exposure to benzidine based dyes with the subsequent development of bladder tumors was presented after a case-control mortality study of 200 bladder cancer patients in Japan. Patients were mostly kimono painters/dyers.

Teratogenicity: C.I. Direct Black 38, a benzidine-based dye, was evaluated for developmental toxicity. All dose levels caused a significant increase in the average % of malformed fetuses. Malformed centra were significantly increased at 200 mg/kg/day and above.

Reproductive Effects: In mice and rats, prenatal exposure to the dye Congo red, a benzidine-based dye, permanently reduces the number of germ cells in male and female offspring. In 1 study, the administration of benzidine to pregnant mice produced liver tumors in the offspring. Oral doses of benzidine-based dyes to pregnant mice on Day 8-12 of gestation altered testicular development & caused hypospermatogenesis during adulthood.

Mutagenicity: See actual entry in RTECS for complete information.

Neurotoxicity: No information available.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	IATA	
Shipping Name:	Please contact for shipping information	
Hazard Class:		
UN Number:		
Packing Group:		

Section 15 - Regulatory Information

Hazard Symbols:

T

Risk Phrases:

R 45 May cause cancer.
R 63 Possible risk of harm to the unborn child.

Safety Phrases:

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 53 Avoid exposure - obtain special instructions before use.

Section 16 - Additional Information

MSDS Creation Date: 5/20/2000
Revision #4 Date: 08/27/2003
Revision #5 Date: 08/26/2008
Revision #6 Date: 08/25/2013
Revision #7 Date: 08/24/2018
Revision #8 Date: 08/23/2023

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