Material Safety Data Sheet
Congo Red

ACC# 60200

Section 1 - Chemical Product and Company Identification

MSDS Name: Congo Red
Catalog Numbers: AC110500000, AC110500010, AC110501000, AC110502500, AC110505000, AC229620000, AC229620050, AC229620250, AC405360000, AC405360250, S70401, S704011, S71402, C580-25
Synonyms: C.I. Direct Red 28; Atlantic Congo Red; C.I. 22120; Diacotton Congo Red; Benzo Congo Red.
Company Identification:
Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>573-58-0</td>
<td>C.I. Direct Red 28</td>
<td>100</td>
<td>209-358-4</td>
</tr>
</tbody>
</table>

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 at 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,
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**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.I. Direct Red 28</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

**OSHA Vacated PELs:** C.I. Direct Red 28: No OSHA Vacated PELs are listed for this chemical. 

**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. 

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

### 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

<table>
<thead>
<tr>
<th>US DOT</th>
<th>Canada TDG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shipping Name:</strong></td>
<td>Please contact Fisher Scientific for shipping information</td>
</tr>
<tr>
<td><strong>Hazard Class:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>UN Number:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Packing Group:</strong></td>
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</tbody>
</table>

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 573-58-0 is listed on the TSCA inventory.

Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.

Section 12b
CAS# 573-58-0: Section 5

TSCA Significant New Use Rule
CAS# 573-58-0: This product is for research and development use only. It is subject to a SNUR which has specific requirements and restrictions. The specific citation for this product is 40CFR citation 721.1660.

CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.

SARA Codes
CAS # 573-58-0: immediate, delayed.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
CAS# 573-58-0 can be found on the following state right to know lists: California, (listed as Benzidine based dyes), New Jersey, Minnesota, (listed as Benzidine based dyes).

California Prop 65
The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:
WARNING: This product contains C.I. Direct Red 28, listed as 'Benzidine based dyes', a chemical known to the state of California to cause cancer.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:

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.

WGK (Water Danger/Protection)
CAS# 573-58-0: 1

Canada - DSL/NDSL
CAS# 573-58-0 is listed on Canada's DSL List.

Canada - WHMIS
This product has a WHMIS classification of D2B, D2A.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List
CAS# 573-58-0 is not listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 5/20/1998
Revision #5 Date: 3/22/2006

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.