

## SAFETY DATA SHEET

Version 5.8

Revision Date 08/05/2016

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### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Congo Red

Product Number : C6767

Brand : Sigma

Product Use : For laboratory research purposes.

Supplier : Sigma-Aldrich Canada Co.  
2149 Winston Park Drive  
OAKVILLE ON L6H 6J8  
CANADA

Manufacturer : Sigma-Aldrich Corporation  
3050 Spruce St.  
St. Louis, Missouri 63103  
USA

Telephone : +1 9058299500

Fax : +1 9058299292

Emergency Phone # (For both supplier and manufacturer) : +1-703-527-3887 (CHEMTREC)

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

#### WHMIS Classification

D2A Very Toxic Material Causing Other Toxic Effects Teratogen  
Carcinogen

#### GHS Classification

Carcinogenicity (Category 1B)  
Reproductive toxicity (Category 2)

#### GHS Label elements, including precautionary statements

Pictogram



Signal word Danger

Hazard statement(s)

H350 May cause cancer.  
H361 Suspected of damaging fertility or the unborn child.

Precautionary statement(s)

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.

#### HMIS Classification

Health hazard: 0  
Chronic Health Hazard: \*  
Flammability: 0  
Physical hazards: 0

## Potential Health Effects

|                   |   |
|-------------------|---|
| <b>Inhalation</b> | May be harmful if inhaled. May cause respiratory tract irritation.  |
| <b>Skin</b>       | May be harmful if absorbed through skin. May cause skin irritation. |
| <b>Eyes</b>       | May cause eye irritation.   |
| <b>Ingestion</b>  | May be harmful if swallowed.  |

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

|                  |   |
|------------------|---|
| Synonyms         | : Direct Red 28<br>Congo Red 4B<br>Cosmos Red<br>Cotton Red B<br>Direct Red R<br>Direct Red Y<br>Cotton Red C |
| Formula          | : $C_{32}H_{22}N_6Na_2O_6S_2$   |
| Molecular weight | : 696.66 g/mol  |

| CAS-No.  | EC-No.    | Index-No.    | Concentration |
|--|-----------|--------------|---------------|
| <b>Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate)</b> |           |              |               |
| 573-58-0   | 209-358-4 | 611-027-00-8 | <=100%        |

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## 4. FIRST AID MEASURES

### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

### In case of eye contact

Flush eyes with water as a precaution.

### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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## 5. FIREFIGHTING MEASURES

### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### Hazardous combustion products

### Explosion data - sensitivity to mechanical impact

No data available

### Explosion data - sensitivity to static discharge

No data available

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## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

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

### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

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## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

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.

##### Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

##### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374  
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### Eye 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 and body protection

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Hygiene measures

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

#### Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

|        |                   |
|--------|-------------------|
| Form   | solid             |
| Colour | No data available |

## Safety data

|  |   |
|--|---|
| pH                                     | 6.7 at 10 g/l at 20 °C (68 °F)                                  |
| Melting point/freezing point           | Melting point/range: > 360 °C (> 680 °F) - lit.                 |
| Boiling point                          | No data available   |
| Flash point                            | No data available   |
| Ignition temperature                   | No data available   |
| Auto-ignition temperature              | No data available   |
| Lower explosion limit                  | No data available   |
| Upper explosion limit                  | No data available   |
| Vapour pressure                        | No data available   |
| Density                                | No data available   |
| Water solubility                       | 1 g/l - clear   |
| Partition coefficient: n-octanol/water | No data available   |
| Solubility in other solvents           | Ethanol - insoluble<br>Ether - insoluble<br>Acetone - insoluble |
| Relative vapour density                | No data available   |
| Odour                                  | No data available   |
| Odour Threshold                        | No data available   |
| Evaporation rate                       | No data available   |

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

No data available

### Conditions to avoid

No data available

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO<sub>x</sub>), Sulphur oxides, Sodium oxides

Other decomposition products - No data available

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

LD50 Oral - Rat - 15,200 mg/kg

LDLO Oral - Human - 143 mg/kg

Remarks: Vascular:Other changes.

#### Inhalation LC50

No data available

**Dermal LD50**

No data available

**Other information on acute toxicity**

LDLO Intravenous - Human - 1.429 mg/kg

Remarks: Behavioral:Convulsions or effect on seizure threshold. Lungs, Thorax, or Respiration:Dyspnea.

**Skin corrosion/irritation**

No data available

**Serious eye damage/eye irritation**

No data available

**Respiratory or skin sensitisation**

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

**Germ cell mutagenicity**

Genotoxicity in vitro - Ames test - S. typhimurium

Histidine reversion (Ames)

Genotoxicity in vitro - Rat - Liver

Unscheduled DNA synthesis

**Carcinogenicity**

IARC: 1 - Group 1: Carcinogenic to humans (Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate))

**Reproductive toxicity**

Reproductive toxicity - Rat - female - Intraperitoneal

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Reproductive toxicity - Mouse - female - Oral

Effects on Fertility: Female fertility index (e.g., # females pregnant per # sperm positive females; # females pregnant per # females mated ).

**Teratogenicity**

Developmental Toxicity - Rat - female - Intraperitoneal

Specific Developmental Abnormalities: Central nervous system. Specific Developmental Abnormalities: Eye, ear. Specific Developmental Abnormalities: Urogenital system.

Developmental Toxicity - Rat - female - Intraperitoneal

Effects on Embryo or Fetus: Other effects to embryo.

Developmental Toxicity - Mouse - female - Intraperitoneal

Specific Developmental Abnormalities: Urogenital system.

Developmental Toxicity - Mouse - female - Oral

Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count). Paternal Effects: Testes, epididymis, sperm duct.

Possible risk of congenital malformation in the fetus.

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

No data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

No data available

**Aspiration hazard**

No data available

**Potential health effects**

|                   |   |
|-------------------|---|
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| <b>Skin</b>       | May be harmful if absorbed through skin. May cause skin irritation. |
| <b>Eyes</b>       | May cause eye irritation.   |

**Signs and Symptoms of Exposure**

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

**Synergistic effects**

No data available

**Additional Information**

RTECS: QK1400000

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**12. ECOLOGICAL INFORMATION****Toxicity**

No data available

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**PBT and vPvB assessment**

No data available

**Other adverse effects**

No data available

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**13. DISPOSAL CONSIDERATIONS****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION****DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

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**15. REGULATORY INFORMATION****WHMIS Classification**

D2A

Very Toxic Material Causing Other Toxic Effects

Teratogen  
Carcinogen

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

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**16. OTHER INFORMATION****Further information**

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