Direct Red 81

sc-214911

Material Safety Data Sheet

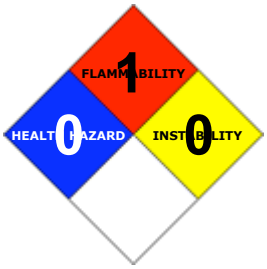
Hazard Alert Code Key:	EXTREME	HIGH	MODERATE	LOW

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
Direct Red 81

STATEMENT OF HAZARDOUS NATURE
Not considered a hazardous substance according to OSHA 29 CFR 1910.1200.

NFPA



SUPPLIER
Company: Santa Cruz Biotechnology, Inc.
Address:
2145 Delaware Ave
Santa Cruz, CA 95060
Telephone: 800.457.3801 or 831.457.3800
Emergency Tel: CHEMWATCH: From within the US and Canada: 877-715-9305
Emergency Tel: From outside the US and Canada: +800 2436 2255 (1-800-CHEMCALL) or call +613 9573 3112

PRODUCT USE
Used as direct dye. In microscopy.

SYNONYMS
RD038, "RD 038", "C.I. No. 28160", "Paper Fast Red 2BCP", "Paper Fast Red 4BR", "Direct Red 4B", "C.I.L. Index GCD-0400/84C", "2-naphthalenesulfonic acid, 7-(benzoylamino)-4-hydroxy-3-[[4-", sulfophenyl)azo], "2-naphthalenesulfonic acid, 7-(benzoylamino)-4-hydroxy-3-[[4-", sulfophenyl)azo], "phenyl]azo]-, disodium salt", "2-naphthalenesulphonic acid, 7-(benzoylamino)-4-hydroxy-3-[[4-", sulphophenyl), "2-naphthalenesulphonic acid, 7-(benzoylamino)-4-hydroxy-3-[[4-", sulphophenyl), "azo]phenyl]azo]-, disodium salt", indicator, C29-H21-N5-O8-S2-Na2, "Chlorantine fast red"

Section 2 - HAZARDS IDENTIFICATION

CANADIAN WHMIS SYMBOLS

None

EMERGENCY OVERVIEW
RISK

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED
■ Although ingestion is not thought to produce harmful effects, the material may still be damaging to the health of the individual following

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ingestion, especially where pre-existing organ (e.g. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality (death) rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

EYE

■ Although the material is not thought to be an irritant, direct contact with the eye may produce transient discomfort characterized by tearing or conjunctival redness (as with windburn).

SKIN

■ The material is not thought to produce adverse health effects or skin irritation following contact (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

INHALED

■ The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

CHRONIC HEALTH EFFECTS

Principal routes of exposure are usually by inhalation of dust and skin/eye contact.
Dust inhalation may cause coughing and sneezing. Eye contact may result in irritation and redness. Ingestion may result in gastro-intestinal irritation, especially if large amounts are ingested.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

HAZARD RATINGS

		Min	Max
Flammability:	1		
Toxicity:	0		
Body Contact:	0		
Reactivity:	0		
Chronic:	0		

Min/Nil=0
Low=1
Moderate=2
High=3
Extreme=4

NAME	CAS RN	%
C.I. Direct Red 81	2610-11-9	> 98

Section 4 - FIRST AID MEASURES

SWALLOWED

■

- For advice, contact a Poisons Information Center or a doctor at once.
- Urgent hospital treatment is likely to be needed.
- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Transport to hospital or doctor without delay.

EYE

■ If this product comes in contact with the eyes:

- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper

and lower lids.
- If pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

■ If skin contact occurs:
- Immediately remove all contaminated clothing, including footwear
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

■
- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

Upper Explosive Limit (%):	Not applicable
Specific Gravity (water=1):	Not available.
Lower Explosive Limit (%):	Not applicable
Relative Vapor Density (air=1):	Not applicable

EXTINGUISHING MEDIA

■
- Water spray or fog.
- Foam.
- Dry chemical powder.

Carbon dioxide.

FIRE FIGHTING

■ Alert Emergency Responders and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves for fire only.
- Prevent, by any means available, spillage from entering drains or water courses.

Cool fire exposed containers with water spray from a protected location.
DO NOT approach containers suspected to be hot.
If safe to do so, remove containers from path of fire.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

■ Combustible.
Moderate dust explosion hazard, when exposed to flame.
Decomposition may produce toxic fumes of: carbon monoxide (CO), carbon dioxide (CO2), nitrogen oxides (NOx) and sulfur oxides (SOx).

PERSONAL PROTECTION

Glasses:
Safety Glasses.
Chemical goggles.
Full face- shield.
Gloves:
Respirator:
Particulate

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS
■ Clean up all spills immediately.
Avoid breathing vapors and contact with skin and eyes.
Wear impervious gloves and safety glasses.
Remove all ignition sources.
Use dry clean up procedures and avoid generating dust.
Place spilled material in clean, dry, sealable, labelled container.
MAJOR SPILLS
■ Clear area of personnel and move upwind.
Alert Emergency Responders and tell them location and nature of hazard.
Minor hazard.
Control personal contact by using protective equipment.
Prevent, by any means available, spillage from entering drains or watercourses.
No smoking, naked lights or ignition sources. Increase ventilation.
Stop leak if safe to do so.
Use dry clean up procedures and avoid generating dust.
Collect recoverable product into labelled containers for recycling.
Collect residues and place in labelled polyethylene bag.
Wash spill area with large quantities of water.
After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
If contamination of drains or waterways occurs, advise emergency services.

ACUTE EXPOSURE GUIDELINE LEVELS (AEGL) (in ppm)

AEGL 1: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic nonsensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.
AEGL 2: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.
AEGL 3: The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience life-threatening health effects or death.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

■ Use good occupational work practice. Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

Avoid breathing vapors and contact with skin and eyes.
Wear protective clothing when risk of exposure occurs.
- Avoid smoking, naked lights, heat or ignition sources

Use in a well-ventilated area.
Avoid contact with incompatible materials.
When handling, DO NOT eat, drink or smoke.
Keep containers securely sealed when not in use.
Avoid physical damage to containers.
Always wash hands with soap and water after handling. Work clothes should be laundered separately.

RECOMMENDED STORAGE METHODS

■ Packaging as recommended by manufacturer.
- Check that containers are clearly labele

Glass container.
Plastic container.
Multi-ply woven plastic or paper bag with sealed plastic liner
NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse.
Metal can.
Plastic drum.

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STORAGE REQUIREMENTS
■ Observe manufacturer's storing and handling recommendations.
Store in original containers.
- Keep containers securely sealed
- No smoking, naked lights, heat or ignition sources.

Store in a cool, dry place.
- Keep dry

Store in a well-ventilated area.
Store away from incompatible materials.
- Keep storage area free of debris, waste and combustibles.

Protect containers against physical damage.
Check regularly for spills and leaks.

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■ Observe manufacturer's storing and handling recommendations.
Store in original containers.
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Store away from incompatible materials.
- Keep storage area free of debris, waste and combustibles.

Protect containers against physical damage.
Check regularly for spills and leaks.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS

+	+	+	+	X	+

X: Must not be stored together
O: May be stored together with specific preventions
+: May be stored together

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³	Peak ppm	Peak mg/m³	TWA F/CC	Notes
US - Oregon Permissible Exposure Limits (Z3)	C.I. Direct Red 81 (Inert or Nuisance Dust: (d) Total dust)		10						*
US OSHA Permissible Exposure Levels (PELs) - Table Z3	C.I. Direct Red 81 (Inert or Nuisance Dust: (d) Respirable fraction)		5						
US OSHA Permissible Exposure Levels (PELs) - Table Z3	C.I. Direct Red 81 (Inert or Nuisance Dust: (d) Total dust)		15						
US - Hawaii Air Contaminant Limits	C.I. Direct Red 81 (Particulates not other wise regulated - Total dust)		10						

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US - Hawaii Air Contaminant Limits	C.I. Direct Red 81 (Particulates not other wise regulated - Respirable fraction)	5	
US - Oregon Permissible Exposure Limits (Z3)	C.I. Direct Red 81 (Inert or Nuisance Dust: (d) Respirable fraction)	5	*
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	C.I. Direct Red 81 (Particulates not otherwise regulated Respirable fraction)	5	
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	C.I. Direct Red 81 (Particulates not otherwise regulated (PNOR)(f)- Respirable fraction)	5	
US - Michigan Exposure Limits for Air Contaminants	C.I. Direct Red 81 (Particulates not otherwise regulated, Respirable dust)	5	

MATERIAL DATA

C.I. DIRECT RED 81:

■ These "dusts" have little adverse effect on the lungs and do not produce toxic effects or organic disease. Although there is no dust which does not evoke some cellular response at sufficiently high concentrations, the cellular response caused by P.N.O.C.s has the following characteristics:

- the architecture of the air spaces remain intact,
- scar tissue (collagen) is not synthesised to any degree,
- tissue reaction is potentially reversible.

Extensive concentrations of P.N.O.C.s may:

- seriously reduce visibility,
- cause unpleasant deposits in the eyes, ears and nasal passages,
- contribute to skin or mucous membrane injury by chemical or mechanical action, per se, or by the rigorous skin cleansing procedures necessary for their removal. [ACGIH]

This limit does not apply:

- to brief exposures to higher concentrations
- nor does it apply to those substances that may cause physiological impairment at lower concentrations but for which a TLV has as yet to be determined.

This exposure standard applies to particles which

- are insoluble or poorly soluble* in water or, preferably, in aqueous lung fluid (if data is available) and
- have a low toxicity (i.e.. are not cytotoxic, genotoxic, or otherwise chemically reactive with lung tissue, and do not emit ionizing radiation, cause immune sensitization, or cause toxic effects other than by inflammation or by a mechanism of lung overload)

PERSONAL PROTECTION



Consult your EHS staff for recommendations

EYE

■

- Safety glasses.
- Chemical goggles
- Full face shield
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation

immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59]

HANDS/FEET

■

- PVA gloves
- Viton gloves

Rubber boots.

- Safety footwear

OTHER

■ Overalls.
Laboratory coat.

- Barrier cream
- Skin cleansing cream
- Eyewash unit.

Ensure there is ready access to a safety shower.
Equipment should be kept clean and in working-order.

RESPIRATOR

■

Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
10 x PEL	P1	-	PAPR-P1
	Air-line*	-	-
50 x PEL	Air-line**	P2	PAPR-P2
100 x PEL	-	P3	-
		Air-line*	-
100+ x PEL	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow
Explanation of Respirator Codes:
Class 1 low to medium absorption capacity filters.
Class 2 medium absorption capacity filters.
Class 3 high absorption capacity filters.
PAPR Powered Air Purifying Respirator (positive pressure) cartridge.
Type A for use against certain organic gases and vapors.
Type AX for use against low boiling point organic compounds (less than 65ºC).
Type B for use against certain inorganic gases and other acid gases and vapors.
Type E for use against sulfur dioxide and other acid gases and vapors.
Type K for use against ammonia and organic ammonia derivatives
Class P1 intended for use against mechanically generated particulates of sizes most commonly encountered in industry, e.g. asbestos, silica.
Class P2 intended for use against both mechanically and thermally generated particulates, e.g. metal fume.
Class P3 intended for use against all particulates containing highly toxic materials, e.g. beryllium.
The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.
Use appropriate NIOSH-certified respirator based on informed professional judgement. In conditions where no reasonable estimate of exposure can be made, assume the exposure is in a concentration IDLH and use NIOSH-certified full face pressure demand SCBA with a minimum service life of 30 minutes, or a combination full facepiece pressure demand SAR with auxiliary self-contained air supply. Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

ENGINEERING CONTROLS

■ General exhaust is adequate under normal operating conditions.
If exposure to workplace dust is not controlled, respiratory protection is required; wear SAA approved dust respirator.
Provide adequate ventilation in warehouse or closed storage areas.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Solid.
Mixes with water.

State	Divided solid	Molecular Weight	7549.008500

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Melting Range (°F)	Not available.	Boiling Range (°F)	Not available.
Solubility in water (g/L)	Miscible	Flash Point (°F)	Not applicable
pH (1% solution)	8.7	Decomposition Temp (°F)	Not available.
pH (as supplied)	Not applicable	Autoignition Temp (°F)	Not available.
Vapour Pressure (mmHG)	Not applicable	Upper Explosive Limit (%)	Not applicable
Specific Gravity (water=1)	Not available.	Lower Explosive Limit (%)	Not applicable
Relative Vapor Density (air=1)	Not applicable	Volatile Component (%vol)	Not applicable
Evaporation Rate	Not applicable		

APPEARANCE
Red powder, soluble in water.

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY
■ Product is considered stable under normal handling conditions.
Stable under normal storage conditions.
Hazardous polymerization will not occur.

STORAGE INCOMPATIBILITY
SUITABLE CONTAINER
■ Packaging as recommended by manufacturer.
● Check that containers are clearly labele
Glass container.
Plastic container.
Multi-ply woven plastic or paper bag with sealed plastic liner
NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse.
Metal can.
Plastic drum.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

C.I. Direct Red 81

TOXICITY AND IRRITATION

TOXICITY	IRRITATION
Oral (rat) LD50: > 5000 mg/kg [Manufacturer]	
Mouse cell mutagen	

Section 12 - ECOLOGICAL INFORMATION

Refer to data for ingredients, which follows:
C.I. DIRECT RED 81:

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
C.I. Direct Red 81	HIGH		LOW	LOW

Section 13 - DISPOSAL CONSIDERATIONS

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Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.
¦ Recycle wherever possible.
Consult manufacturer for recycling options.
Consult Waste Management Authority for disposal.
Bury or incinerate residue at an approved site.
Decontaminate empty containers.
Recycle containers if possible, or dispose of in an authorized landfill.

Section 14 - TRANSPORTATION INFORMATION

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: DOT, IATA, IMDG

Section 15 - REGULATORY INFORMATION

C.I. Direct Red 81 (CAS: 2610-11-9,25188-42-5) is found on the following regulatory lists;
"Canada Domestic Substances List (DSL)","US Toxic Substances Control Act (TSCA) - Inventory"

Section 16 - OTHER INFORMATION

Ingredients with multiple CAS Nos

Ingredient Name	CAS
C.I. Direct Red 81	2610-11-9, 25188-42-5

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■ Classification of the mixture and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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