

SAFETY DATA SHEET

Issue Date 31-Mar-2021

Revision Date 26-Jan-2024

Version 5.4

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	1. IDENTIFICATION
<u>Product identifier</u> Product Name	Porphyrin 2 Reagent
Other means of identification Product Code(s)	2603649

M00107

Safety data sheet number

UN/ID no UN1384

Recommended use of the chemical and restrictions on use Recommended Use Laboratory Lise

Recommended Use	Laburatory USE.
Uses advised against	Consumer use.
Restrictions on use	For Laboratory Use Only.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Self-heating substances and mixtures	Category 1
Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 2A
Chronic aquatic toxicity	Category 3

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word Danger

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Hazard statements H251 - Self-heating: may catch fire H302 - Harmful if swallowed H319 - Causes serious eye irritation H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P270 - Do not eat, drink or smoke when using this product
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 - Rinse mouth
P501 - Dispose of contents/ container to an approved waste disposal plant
P280 - Wear protective gloves, protective clothing, eye protection, and face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical attention
P235 + P410 - Keep cool. Protect from sunlight
P407 - Maintain air gap between stacks/pallets
P420 - Store away from other materials

Causes mild skin irritation Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance Chemical Name Chemical Family Formula CAS No Chemical nature

Sodium Hydrosulfite Reducing agent. Na₂S₂O₄ 7775-14-6 Inorganic Compound.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
Sodium dithionite	7775-14-6	100%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice

Show this safety data sheet to the doctor in attendance.

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Inhalation	Remove to fresh air.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
Skin contact	Wash skin with soap and water.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing.
Most important symptoms and effe	cts, both acute and delayed
Symptoms	Burning sensation.
Indication of any immediate medica	I attention and special treatment needed
Note to physicians	Treat symptomatically.
	5. FIRE-FIGHTING MEASURES
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	Caution: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	No information available.
Hazardous combustion products	Sodium monoxide. Sulfur oxides.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
	6. ACCIDENTAL RELEASE MEASURES
U.S. Notice	Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.
Personal precautions, protective ec	uipment and emergency procedures
Personal precautions	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.
Other Information	Refer to protective measures listed in Sections 7 and 8.
Environmental precautions	
Environmental precautions	See Section 12 for additional ecological information.
Methods and material for containme	ent and cleaning up

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Methods for containment	Prevent further leakage or spillage if safe to do so.		
Methods for cleaning up	Take up mechanically, placing in appropriate containers for disposal.		
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.		
Reference to other sections	See section 8 for more information. See section 13 for more information.		

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handlingHandle in accordance with good industrial hygiene and safety practice. Avoid contact with
skin, eyes or clothing. Do not eat, drink or smoke when using this product.Conditions for safe storage, including any incompatibilitiesStorage ConditionsKeep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach
of children.Flammability classNot applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters	
Exposure Guidelines	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies
Appropriate engineering controls Engineering Controls	Showers Eyewash stations Ventilation systems.
Individual protection measures, su	ch as personal protective equipment
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
Hand Protection	Wear suitable gloves. Barrier creams may help to protect the exposed areas of skin. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016.
Eye/face protection	If splashes are likely to occur, wear safety glasses with side-shields.
Skin and body protection	Wear suitable protective clothing.
General Hygiene Considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.
Thermal hazards	None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Appearance Odor	powder Sulfur-like	Solid	-	color Odor threshold	white No data ava	ilable
Property_			Values			Remarks • Method
Molecular weight	t		174.10 g/mole			
рН			5.5 - 8.5			5% @ 20°C
Melting point / fro	eezing point		No data available			
Initial boiling poi	nt and boiling rang	je	No data available			
Evaporation rate			Not applicable			
Vapor pressure			Not applicable			
Relative vapor de	ensity		No data available	e		
Specific gravity -	VALUE 1		2.2			
Partition coefficie	ent		log K₀w < -7.53			Estimation through KOWWIN v1.68 part of the Estimation Programs Interface (EPI) Suite TM
Soil Organic Carl Coefficient	bon-Water Partitio	n	log K₀c < -0.62			Estimation through KOCWIN v2.00 part of the Estimation Programs Interface (EPI) Suite™
Autoignition tem	perature		100 °C / 212	°F		
Decomposition te	emperature		100 °C / 212 °F			
Dynamic viscosi	ty		Not applicable			
Kinematic viscos	sity		Not applicable			
Solubility(ies)						

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Completely soluble	250000 mg/L	20 °C / 68 °F

Solubility in other solvents

Chemical Name	Solubility classification	<u>Solubility</u>	Solubility Temperature
Acids	Insoluble	< 0.1 mg/L	25 °C / 77 °F

Other information

Metal Corrosivity

Steel Corrosion Rate Aluminum Corrosion Rate

Not applicable Not applicable

Volatile Organic Compounds (VOC) Content This Product is by Weight 100% an Individual Pure Chemical Substance

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Sodium dithionite	7775-14-6	Not applicable	-

Explosive properties

Upper explosion limit Lower explosion limit	No data available No data available
Flammable properties	
Flash point	Not applicable
Flammability Limit in Air Upper flammability limit: Lower flammability limit:	No data available No data available
Oxidizing properties	No data available.
Bulk density	1250 kg/m ³

10. STABILITY AND REACTIVITY

Reactivity Not applicable.

Chemical stability Fire hazard.

Explosion data Sensitivity to Mechanical Impact None. Sensitivity to Static Discharge None.

Possibility of hazardous reactions

Self-heating; may catch fire.

Hazardous polymerization

Hazardous polymerization does not occur.

Conditions to avoid Heat.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents. Combustible material.

Hazardous decomposition products

Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation

May cause irritation of respiratory tract.

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Eye contact	Causes serious eye irritation. May cause redness, itching, and pain.
Skin contact	May cause irritation. Prolonged contact may cause redness and irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed.
Symptoms	May cause redness and tearing of the eyes.
Acute toxicity	

<u>Acute toxicity</u> Harmful if swallowed

Mixture

If available, see ingredient data below.

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium dithionite (100%) CAS#: 7775-14-6	Mouse LD50	1500 mg/kg	None reported	None reported	ERMA

Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

Not applicable

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	No information available
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Mixture

If available, see ingredient data below.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium dithionite (100%) CAS#: 7775-14-6	Standard Draize Test	Rabbit	800 mg	None reported	Mild skin irritant	IUCLID

Serious eye damage/irritation

Classification based on data available for ingredients. Irritating to eyes.

Mixture

If available, see ingredient data below.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium dithionite (100%) CAS#: 7775-14-6	Standard Draize Test	Rabbit	100 mg	None reported	Eye irritant	IUCLID

Respiratory or skin sensitization

Based on available data, the classification criteria are not met.

Mixture

If available, see ingredient data below.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sodium dithionite (100%) CAS#: 7775-14-6	Based on human experience	Human	Not confirmed to be a skin sensitizer	OECD 429: Skin Sensitization: Local Lymph Node Assay

STOT - single exposure

Based on available data, the classification criteria are not met.

Mixture

If available, see ingredient data below.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Mixture

If available, see ingredient data below.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium dithionite (100%) CAS#: 7775-14-6	Rat NOAEL	217 mg/kg	None reported	None reported	OECD 429: Skin Sensitization: Local Lymph Node Assay

Carcinogenicity

Based on available data, the classification criteria are not met.

Mixture

If available, see ingredient data below.

Ingredient Carcinogenicity Data

Test data reported below.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Sodium dithionite	7775-14-6	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA	Does not apply

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium dithionite (100%) CAS#: 7775-14-6	None reported	942 mg/kg	2 years	Negative results for carcinogenicity	No information available

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Mixture invitro Data

If available, see ingredient data below.

Substance invitro Data

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium dithionite (100%) CAS#: 7775-14-6	Mutation in microorganisms	Salmonella typhimurium	None reported	None reported	Negative	IUCLID

Mixture invivo Data

If available, see ingredient data below.

Substance invivo Data

Test data reported below.

Oral Exposure Route

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium dithionite (100%) CAS#: 7775-14-6	Cytogenetic analysis	Rat	1200 mg/kg	None reported	Negative test result for mutagenicity	IUCLID

Reproductive toxicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Reproductive Toxicity Data No data available.

Aspiration hazard

Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity		Harmful to aquatic life with long lasting effects.	

Unknown aquatic toxicity 0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

<u>Mixture</u>

Aquatic Acute Toxicity If available, see ingredient data below.

Aquatic Chronic Toxicity

If available, see ingredient data below.

Substance

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium dithionite (100%) CAS#: 7775-14-6	96 hours	Leuciscus idus	LC ₅₀	>= 46 mg/L	IUCLID

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium dithionite (100%) CAS#: 7775-14-6	48 Hours	Daphnia magna	EC50	98 mg/L	IUCLID

log Kow < -7.53

log Koc < -0.62

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

Bioaccumulation MATERIAL DOES NOT BIOACCUMULATE **Mixture** No data available.

Partition coefficient

Mobility

Soil Organic Carbon-Water Partition Coefficient

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods	
Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.
US EPA Waste Number	D001

Special instructions for disposal

Incinerate material at an E.P.A. approved hazardous waste facility.

	14. TRANSPORT INFORMATION		
DOT UN/ID no Proper shipping name Transport hazard class(es) Packing Group Emergency Response Guide Number	UN1384 Sodium dithionite 4.2 II 135		
<u>TDG</u> UN/ID no Proper shipping name Transport hazard class(es) Packing Group	UN1384 Sodium dithionite 4.2 II		
<u>IATA</u> UN number or ID number Proper shipping name Transport hazard class(es) Packing group ERG Code	UN1384 Sodium dithionite 4.2 II 4L		
IMDG UN number or ID number Proper shipping name Transport hazard class(es) Packing Group EmS-No	UN1384 Sodium dithionite 4.2 II F-A, S-J		
Note:	No special precautions necessary.		

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

National Inventories	
TSCA	Complies
DSL/NDSL	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

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DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories	
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

 $\ensuremath{\text{ENCS}}$ - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TCSI - Taiwan Chemical Substances Inventory

AICS - Australian Inventory of Chemical Substances

NZIOC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Yes
No
No
No
No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues

Chemical name	U.S Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues
Sodium dithionite (100%) CAS#: 7775-14-6	Sabotage/Contamination

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

IMERC: Not applicable

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sodium dithionite	Х	Х	Х
7775-14-6			

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Sodium dithionite	-	21 CFR 182.90

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments None

Additional information

Global Automotive Declarable Substance List (GADSL) Not applicable <u>NFPA and HMIS Classifications</u>

NFPA	Health hazards - 2	Flammability - 1	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - 2	Flammability - 1	Physical hazards - 0	Personal protection - X - I

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)		
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)		
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)		
CDC	CDC (Center for Disease Control)		
CEPA	CEPA (Canadian Environmental Protection Agency)		
CICAD	CICAD (Concise International Chemical Assessment Documents)		
ECHA	ECHA (The European Chemicals Agency)		
EEA	EEA (European Environment Agency)		
EPA	EPA (Environmental Protection Agency)		
ERMA	ERMA (New Zealands Environmental Risk Management Authority)		
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™		
FDA	FDA (Food & Drug Administration)		
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident		
	Insurance)		
HSDB	HSDB (Hazardous Substances Data Bank)		
INERIS	INERIS (The National Industrial Environment and Risks Institute)		
IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)		
IUCLID	IUCLID (The International Uniform Chemical Information Database)		
NITE	Japan National Institute of Technology and Evaluation (NITE)		
NIH	NIH (National Institutes of Health)		
NIOSH	NIOSH (National Institute for Occupational Safety and Health)		
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)		
NDF	no data		
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)		
NIOSH IDLH	Immediately Dangerous to Life or Health		
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)		

PEEN RTECS SIDS SYKE USDA USDC WHO	PEEN (Pan European Ecological Network) RTECS (Registry of Toxic Effects of Chemical Substances) SIDS (Screening Information Dataset) for High Volume Chemicals The Finnish Environment Institute (SYKE) USDA (United States Department of Agriculture) USDC (United States Department of Commerce) WHO (World Health Organization)				
TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)		
IWA	TWA (lime-weighted average)	STEL	STEL (Short term Exposure Limit)		
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value		
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.		
SKN* Skin designation		SKN+	Skin sensitization		
RSP+ C M	Respiratory sensitization Carcinogen mutagen	** R	Hazard Designation Reproductive toxicant		
Prepared By	repared By Hach Product Compliance Department				
Issue Date 31-Mar-2021					
Revision Date	26-Jan-2024				
Revision Note	None				

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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End of Safety Data Sheet