

SAFETY DATA SHEET

spectrum®



Revision date 15-February-2022

Revision Number 2

1. Identification

Product identifier

Product Name PHENOL, NEUTRALIZED, FOR MOLECULAR BIOLOGY, LIQUEFIED

Other means of identification

Product Code(s) P1066

UN/ID no UN2821

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use No information available

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Address

Spectrum Chemical Mfg. Corp.
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Emergency telephone number

Emergency Telephone Chemtrec 1-800-424-9300

2. Hazard(s) identification

Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Gases)	Category 3
Acute toxicity - Inhalation (Vapors)	Category 1
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Germ cell mutagenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2
Flammable liquids	Category 4

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Danger

Hazard statements

Harmful if swallowed
Toxic in contact with skin
Fatal if inhaled
Causes severe skin burns and eye damage
Suspected of causing genetic defects
May cause damage to organs through prolonged or repeated exposure
Combustible liquid



Appearance Clear

Physical state Liquid

Odor No information available

Precautionary Statements - Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Wear respiratory protection
Keep away from flames and hot surfaces. - No smoking
Keep cool

Precautionary Statements - Response

Specific treatment (see .? on this label)
Specific treatment is urgent (see .? on this label)
Immediately call a POISON CENTER or doctor
Specific treatment (see .? on this label)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor
Call a POISON CENTER or doctor if you feel unwell
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
Wash contaminated clothing before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Immediately call a POISON CENTER or doctor
IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
Rinse mouth
Do NOT induce vomiting
In case of fire: Use CO₂, dry chemical, or foam to extinguish

Precautionary Statements - Storage

Store locked up.
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

No information available.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No	Weight-%	Trade secret
Phenol	108-95-2	80 - 100	*
Water	7732-18-5	10 - 20	*
Citric Acid, Anhydrous	77-92-9	0.1 - 1	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Inhalation	If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.
Self-protection of the first aider	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not breathe vapor or mist. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. Fire-fighting measures

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO₂). water spray. Alcohol resistant foam.
Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
Specific hazards arising from the chemical	Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
Explosion data	
Sensitivity to mechanical impact	none.
Sensitivity to static discharge	yes.
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

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not breathe vapor or mist. Keep people away from and upwind of spill/leak. Attention! Corrosive material.

Other information Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash before reuse. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep out of the reach of children. Store locked up. Protect from moisture. Store away from other materials.

8. Exposure controls/personal protection

Control parameters

Exposure Limits

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Phenol 108-95-2	No data available	5 ppm TWA 19 mg/m ³ TWA	-

Appropriate engineering controls

Engineering controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Do not breathe vapor or mist.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid
Appearance Clear
Color Colorless to pale yellow; or; light pink
Odor No information available
Odor threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	Neutral	None known
Melting point / freezing point	no data available	None known
Boiling point / boiling range	no data available	None known
Flash point	no data available	None known
Evaporation rate	no data available	None known
Flammability (solid, gas)	no data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	no data available	None known
Relative density	1.05	None known
Water solubility	Miscible in water	None known
Solubility(ies)	no data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	no data available	None known

Decomposition temperature		None known
Kinematic viscosity	no data available	None known
Dynamic viscosity	No data available	None known

Other information

Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Heat, flames and sparks. Excessive heat. Exposure to air or moisture over prolonged periods.
Incompatible materials	Acids. Bases. Oxidizing agent.
Hazardous decomposition products	None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available. Fatal if inhaled. (based on components). Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. Toxic in contact with skin.
Ingestion	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Coughing and/ or wheezing. Difficulty in breathing. Redness. Burning. May cause blindness.
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Acute toxicity

Numerical measures of toxicity

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

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Phenol 108-95-2	= 340 mg/kg (Rat)	= 630 mg/kg (Rabbit)	= 316 mg/m ³ (Rat) 4 h
Water 7732-18-5	90 mL/kg (Rat)	-	-
Citric Acid, Anhydrous 77-92-9	-	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Classification based on data available for ingredients. Causes burns.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Risk of serious damage to eyes. Causes burns.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	Contains a known or suspected mutagen. Classification based on data available for ingredients. Suspected of causing genetic defects.
Carcinogenicity	No information available.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Phenol 108-95-2	-	Group 3 - Not classifiable - Monograph 71 [1999] Monograph 47 [1989]	-	-

Legend

Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Target organ effects	liver, kidney, respiratory system, Eyes, Skin.
Aspiration hazard	No information available.
Other adverse effects	No information available.
Interactive effects	No information available.

12. Ecological information

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Phenol 108-95-2	EC50: 0.0188 - 0.1044mg/L (96h, Pseudokirchneriella subcapitata) EC50: 187 - 279mg/L (72h, Desmodesmus subspicatus) EC50: =46.42mg/L (96h, Pseudokirchneriella subcapitata)	LC50: 11.9 - 25.3mg/L (96h, Lepomis macrochirus) LC50: 11.9 - 50.5mg/L (96h, Pimephales promelas) LC50: 20.5 - 25.6mg/L (96h, Pimephales promelas) LC50: 23.4 - 36.6mg/L (96h, Oryzias latipes) LC50: 33.9 - 43.3mg/L (96h, Oryzias latipes) LC50: 34.09 - 47.64mg/L (96h, Poecilia reticulata) LC50: 4.23 - 7.49mg/L (96h, Oncorhynchus mykiss) LC50: 5.0 - 12.0mg/L	-	EC50: 10.2 - 15.5mg/L (48h, Daphnia magna) EC50: 4.24 - 10.7mg/L (48h, Daphnia magna)

		(96h, Oncorhynchus mykiss) LC50: 5.449 - 6.789mg/L (96h, Oncorhynchus mykiss) LC50: 7.5 - 14mg/L (96h, Oncorhynchus mykiss) LC50: =0.00175mg/L (96h, Cyprinus carpio) LC50: =11.5mg/L (96h, Lepomis macrochirus) LC50: =13.5mg/L (96h, Lepomis macrochirus) LC50: =27.8mg/L (96h, Brachydanio rerio) LC50: =31mg/L (96h, Poecilia reticulata) LC50: =32mg/L (96h, Pimephales promelas)		
Citric Acid, Anhydrous 77-92-9	-	LC50: =1516mg/L (96h, Lepomis macrochirus)	-	EC50: =120mg/L (72h, Daphnia magna)

Persistence and degradability No information available.
Bioaccumulation Inherently biodegradable.

Component Information

Chemical name	Partition coefficient
Phenol 108-95-2	1.5
Citric Acid, Anhydrous 77-92-9	-1.72

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.

14. Transport information

DOT

UN/ID no UN2821
Proper Shipping Name: Phenol solutions
Hazard class 6.1
Packing group: II
Special Provisions IB2, T7, TP2
Marine Pollutant Severe Marine Pollutant
Description: UN2821, Phenol solutions, 6.1, II
Emergency Response Guide Number 153

TDG

UN-No: UN2821
Proper Shipping Name: Phenol solution
Hazard class 6.1
Packing Group: II

Description: UN2821, Phenol solution, 6.1, II

MEX

UN-No: UN2821
Proper Shipping Name: Phenol solution
Hazard class: 6.1
Packing Group: II
Description: UN2821, Phenol solution, 6.1, II

ICAO (air)

UN-No: UN2821
Proper Shipping Name: Phenol solution
Hazard class: 6.1
Packing Group: II
Special Provisions: A3
Description: UN2821, Phenol solution, 6.1, II

IATA

UN number: UN2821
Proper Shipping Name: Phenol solution
Transport hazard class(es): 6.1
Packing group: II
Description: UN2821, Phenol solution, 6.1, II

IMDG

UN number: UN2821
Proper shipping name: Phenol solution
Transport hazard class(es): 6.1
Packing group: II
EmS-No: F-A, S-A
Marine pollutant: NP1
Description: UN2821, Phenol solution, 6.1, II

RID

UN number: UN2821
Proper Shipping Name: Phenol solution
Transport hazard class(es): 6.1
Packing group: II
Classification code: T1
Description: UN2821, Phenol solution, 6.1, II
Labels: 6.1

ADR

UN number: 2821
Proper Shipping Name: Phenol solution
Transport hazard class(es): 6.1
Packing group: II
Classification code: T1
Tunnel restriction code: (D/E)
Description: 2821, Phenol solution, 6.1, II, (D/E)
Labels: 6.1

ADN

UN/ID No: UN2821
Proper shipping name: Phenol solution
Transport hazard class(es): 6.1
Packing Group: II
Classification code: T1
Special Provisions: 802
Description: UN2821, Phenol solution, 6.1, II
Hazard label(s): 6.1
Limited quantity (LQ): 100 ml
ventilation: VE02
Equipment Requirements: PP, EP, TOX, A

15. Regulatory information

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	This product complies with ENCS:
IECSC	This product complies with China:
KECL	Complies
PICCS	Complies
AICS	All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

Legend:

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

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

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

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

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Phenol - 108-95-2	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

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, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Phenol 108-95-2	1000 lb final RQ 454 kg final RQ	-

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Phenol 108-95-2	1487	Present	Environmental hazard

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA

Health hazards 4

Flammability 0

Instability 0

Physical and chemical properties -

HMIS

Health hazards 4 *

Flammability 0

Physical hazards 0

Personal protection X

Chronic Hazard Star Legend

* = Chronic Health Hazard

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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGl(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

Revision date 15-February-2022

Revision Note No information available.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet