
1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Nessler's Reagent
Catalog Number: RN44
Product Use: For laboratory use only

Manufacturer's Name: Dalynn Biologicals Inc.
Supplier's Name: Dalynn Biologicals Inc.
Address: 3253 – 34 Avenue NE
Calgary, AB, Canada
T1Y 6X2

Telephone: 1-888-404-4045
Fax: (403) 250-9010
Chemical Emergency: 1-613-996-6666
Phone Number Only

2. HAZARD IDENTIFICATION**Emergency Overview****GHS Classification**

Acute toxicity, Oral (Category 2)
Acute toxicity, Inhalation (Category 3)
Acute toxicity, Dermal (Category 3)
Skin corrosion/irritation (Sub-category 1A)
Serious eye damage/eye irritation (Category 1)
Specific target organ toxicity – repeated exposure (Category 2)
Acute aquatic toxicity (Category 1)
Chronic aquatic toxicity (Category 1)

GHS Label Elements, Including Precautionary Statements

Pictogram



Signal word

Danger

Hazard statement(s)

H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled.
H314 Causes severe skin burns and eye damage.
H341 Suspected of causing genetic defects.
H373 May cause damage to organs through prolonged or repeated exposure
H402 Harmful to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P202 Do not handle until all safety precautions have been read and understood.

P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 + P310	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/ physician.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P361 + P364	Take off immediately all contaminated clothing and wash it before reuse.
P391	Collect spillage.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

3. COMPOSITION & INFORMATION ON INGREDIENTS

INGREDIENT	%	CAS-No.	EC-No.	Index-No.
Basic Fuchsin	0.3	569-61-9	209-321-2	611-031-00-X
Phenol	4.5	108-95-2	203-632-7	604-001-00-2
Ethanol	0.5	64-17-5	200-578-6	603-002-00-5
Water	94	7732-18-5	231-791-2	-

4. FIRST AID MEASURES

General advice

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

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Take victim to hospital and consult a physician.

In case of skin contact

Take off contaminated clothing. Wash affected area with soap and plenty of water. Take victim to hospital and consult a physician.

In case of eye contact

Flush eyes with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do not induce vomiting. Rinse mouth with water if patient is conscious. Take patient to hospital and consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability

Contains mostly water therefore the flammability hazard is minimal.

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

Hazardous decomposition products formed under fire conditions: carbon oxides (ie. carbon dioxides, carbon monoxide), nitrogen oxides, hydrogen chloride gas

Explosion data – sensitivity to mechanical impact

No

Explosion data – sensitivity to static discharge

No

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Collect spillage and hold for disposal.

Methods and materials for containment and cleaning up

Wearing appropriate safety gear including chemical resistant gloves and dust mask or respirator, soak up with inert absorbent material. Place in a sealed container and hold for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Use in area with adequate ventilation.

Conditions for safe storage

Keep container tightly closed in a well ventilated place away from direct light or sunlight.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Phenol	108-95-2	TWA	5 ppm 19 mg/m ³	Canada. Alberta. Occupational Health and Safety Code (table 2:OEL)
Remarks	Substance may be readily absorbed through intact skin			
		TWA	5 ppm	Canada. British Columbia OEL

	Contributes significantly to the overall exposure by the skin route			
		TWAEV	5 ppm 19 mg/m ³	Canada. Quebec. Regulation respecting occupational health and safety, schedule 1, Part 1
	Skin (percutaneous)			
		TWA	5 ppm	USA. ACGIH Threshold Limit Values (TLV)
Ethanol	64-17-5	TWA	1,000 ppm 1,880 mg/m ³	Canada. Alberta. Occupational Health and Safety Code (table 2:OEL)
		TWA	1,000 ppm	Canada. British Columbia OEL
		STEL	1,000 ppm	Canada. British Columbia OEL
		TWAEV	1,000 ppm 1,900 mg/m ³	Canada. Ontario OELs
		TWAEV	1,000 ppm 1,880 mg/m ³	Canada. Quebec. Regulation respecting occupational health and safety, schedule 1, Part 1
		TWA	1,000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		STEL	1,000 ppm	USA. ACGIH Threshold Limit Values (TLV)

Engineering measures

Ensure adequate ventilation especially in confined areas. If desired, use mechanical exhaust or laboratory fumehood to avoid exposure.

Personal protective equipment

Respiratory protection

Use in area with adequate ventilation. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type ABEK (EN14387) respirator cartridges as a backup to engineering controls. 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 after use.

Eye protection

Face shield and/or safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166 (EU).

Skin and body protection

Wear appropriate clothing such as a lab coat that covers as much of the body as possible. Complete suit can also be worn if desired.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form

Liquid

Color Pinkish-red with slight alcoholic odor

Safety data

pH	No data available
Melting point/ freezing point	No data available
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
Vapor pressure	No data available
Density	No data available
Water solubility	soluble
Partition coefficient/ n-octanol/water	No data available
Relative vapor density	No data available
Odour	No data available
Odour threshold	No data available
Evaporation rate	No data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Materials to avoid

Strong oxidizing agents, aluminum chloride, nitrobenzene, calcium hypochlorite, butadiene, halogens, formaldehyde, mineral oxidizing acids, isocyanates, sodium nitrite

Hazardous decomposition products

Other decomposition products – No data available

Hazardous decomposition products formed under fire conditions – Carbon oxides, nitrogen oxides, hydrogen chloride gas

Hazardous polymerization

Hazardous polymerization does not occur

Hazardous reactions

None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

LD50 Oral – Rat – 317 mg/kg (phenol)

LD50 Oral – Rat – 340 mg/kg (phenol)

LD50 Oral – Rat – 10,470 mg/kg (ethanol)

Inhalation LC50

LD50 Inhalation – Rat – 4h - 316 mg/m³ (phenol)

LD50 Inhalation – Rat – 4h - 30,000 mg/l (ethanol)

Dermal LD50

LD50 Dermal – Rabbit – 630 mg/kg (phenol)

LD50 Dermal – Rabbit – 15,800 mg/kg (ethanol)

Other information on acute toxicity

No data available

Skin corrosion/irritation

Skin – Rabbit – Severe skin irritation – 24h (phenol)

Skin – Rabbit – No skin irritation – 24h – OECD Test Guidelines 404 (ethanol)

Serious eye damage/eye irritation

Eye – Rabbit – Corrosive – OECD Test Guidelines 405 (phenol)

Eye – Rabbit – Moderate eye irritation – OECD Test Guidelines 405 (ethanol)

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

In vitro tests showed mutagenic effects for phenol

Carcinogenicity

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

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Basic Fuchsin	569-61-9	Group 2B	Reasonably anticipated	Not listed	X	Not listed
Phenol	108-95-2	Not listed	Not listed	Not listed	Not listed	Not listed
Ethanol	64-17-5	Group 1	Known	A3	X	Not listed

IARC: (International Agency for Research on Cancer)

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Group 1 - Carcinogenic to Humans Group

2A - Probably Carcinogenic to Humans Group

2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

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Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

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A1 - Known Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

Reproductive toxicity

Experiments have shown reproductive toxicity effects on laboratory animals for phenol

Teratogenicity

No data available

Specific target organ toxicity – single exposure (GHS)

No data available

Specific target organ toxicity – repeated exposure (GHS)

May cause damage to organs through prolonged or repeated exposure

Aspiration hazard

No data available

Potential Health Effects**Inhalation**

May be toxic if inhaled. Material is destructive to the tissue of the mucous membranes and upper respiratory tract. Symptoms listed under ingestion may also occur.

Skin

May be harmful or toxic if absorbed through skin. May causes skin irritation or burns depending on duration. Rapidly absorbed with systemic poisoning effects to follow.

Eyes

May cause eye irritation or burns on contact.

Ingestion

Toxic if swallowed in sufficient quantity. Keep in mind that the main component in this product is water and the hazardous symptoms described are from exposure to phenol and denatured ethanol therefore negative health effects are expected but muted given the diluted nature of the mixture. Symptoms of exposure include abdominal pain, nausea, vomiting headache dizziness, muscular weakness, CNS effects, increase in heart rate, irregular breathing, coma, and possibly death.

Signs and Symptoms of Exposure

Symptoms of exposure include abdominal pain, nausea, vomiting headache dizziness, muscular weakness, CNS effects, increase in heart rate, irregular breathing, coma, and possibly death. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects

No data available

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Ethanol	EC50 (72h) = 275 mg/L (Chorella vulgaris)	Fathead minnow (Pimephales promelas) LC50 = 14,200 mg/L/96h	Photobacterium phosphoreum: EC50 = 34,634 mg/L/30 min Photobacterium phosphoreum: EC50 = 35,470 mg/L/5 min	EC50 = 9,268 mg/L/48h EC50 = 10,800 mg/L/24h
Phenol	EC50 (96h) = 370 mg/l (Chorella vulgaris) EC50 (96h) = 46.42 mg/L (Pseudokirchneriella subcapitata)	Leuciscus idus: LC50 = 14 – 25 mg/L/48h Carassius auratus: LC50 = 36 – 69 mg/L/96h	EC50 = 21 – 36 mg/L/30 min EC50 = 23.28 mg/L/5 min EC50 = 25.61 mg/L/15 min EC50 = 28.8 mg/L/5 min EC50 = 31.6 mg/L/15 min	EC50 = 10.2 – 15.5 mg/L/48h EC50 = 4.24 – 10.7 mg/L/48h

Persistence and degradability

Biodegradability Result: Readily biodegradable. (phenol)

Bioaccumulative potential

(For Phenol)

Bioaccumulation Danio rerio (zebra fish) – 5h
Bioconcentration factor (BCF): 17.5
Remarks: Does not bioaccumulate.

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

No data available

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.

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

UN Number: 1671 Class: 6.1 Packing Group: II
Proper Shipping Name: Phenol Solution
Reportable Quantity (RQ): 1000 lbs
Marine Pollutant: No
Poison Inhalation Hazard: No

IMDG

UN Number: 1671 Class: 6.1 Packing Group: II EMS-No: F-A, S-A
Proper Shipping Name: Phenol Solution
Marine Pollutant: No

IATA

UN Number: 1671 Class: 6.1 Packing Group: II
Proper Shipping Name: Phenol Solution

15. REGULATORY INFORMATION

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

16. OTHER INFORMATION

Further information

Copyright 2018 Dalynn Biologicals Inc. The above information is believed to be correct but does not purport to be all inclusive and shall be only used as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Dalynn Biologicals Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.
