

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Phenol Solution 89%
Product code : 400505, 400506, 400508, 401011

1.2. Recommended use and restrictions on use

Use of the substance/mixture : For laboratory and manufacturing use only
Restrictions on use : Not for food, drug or household use

1.3. Supplier

EDM 3, LLC
3611 St Johns Bluff Road, Suite 1
Jacksonville, FL 32224
T 800-638-2625, Monday-Friday: 8:00 AM-5:00 PM

1.4. Emergency telephone number

Emergency number : INFOTRAC at 1-800-535-5053 (Domestic within the USA and Canada) or 1-352-323-3500
(International callers may call collect), 24 hours/day, 7 days/week.

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Acute toxicity (dermal) Category 3	H311	Toxic in contact with skin
Acute toxicity (inhalation:dust,mist) Category 3	H331	Toxic if inhaled
Skin corrosion/irritation Category 1B	H314	Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage
Germ cell mutagenicity Category 2	H341	Suspected of causing genetic defects
Specific target organ toxicity (repeated exposure) Category 2	H373	May cause damage to organs through prolonged or repeated exposure
Hazardous to the aquatic environment – Chronic Hazard Category 2	H411	Toxic to aquatic life with long lasting effects

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H302 - Harmful if swallowed
H311+H331 - Toxic in contact with skin or if inhaled
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H341 - Suspected of causing genetic defects
H373 - May cause damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long lasting effects

Phenol Solution 89%

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Precautionary statements (GHS US)	: P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe dust, fume, mist, spray, vapors, gas. P261 - Avoid breathing dust, fume, gas, mist, spray, vapors. P264 - Wash exposed 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 clothing, eye protection, face protection, protective gloves. P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell. P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting. P302+P352 - If on skin: Wash with plenty of water. P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 - If exposed or concerned: Get medical advice/attention. P310 - Immediately call a poison center or doctor. P311 - Call a poison center or doctor. P312 - Call a poison center or doctor if you feel unwell. P314 - Get medical advice/attention if you feel unwell. P321 - Specific treatment (see supplemental first aid instruction on this label). P322 - Specific treatment (see supplemental first aid instruction on this label) P330 - Rinse mouth. P361+P364 - Take off immediately all contaminated clothing and wash it before reuse. P363 - Wash contaminated clothing 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 hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
-----------------------------------	--

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

Phenol Solution 89%

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

3.2. Mixtures

Name	Product identifier	Conc.	GHS US classification
phenol	CAS-No.: 108-95-2	89	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Acute Tox. 3 (Inhalation:dust,mist), H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 Muta. 2, H341 STOT RE 2, H373
Water	CAS-No.: 7732-18-5	11	Not classified

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a doctor.
First-aid measures after skin contact	: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	: Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
---------------------------	---

Phenol Solution 89%

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Use only outdoors or in a well-ventilated area.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

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

Packaging materials : Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Phenol Solution 89%

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

phenol (108-95-2)

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA	5 ppm
---------------	-------

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: colorless to light pink
Odor	: sharp Characteristic odour medicinal
Odor threshold	: No data available
pH	: 0 (> 3.5 – < 4.2)
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 79 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Combustible liquid.
Vapor pressure	: 0.4
Relative vapor density at 20°C	: 3.2
Relative density	: 1.06
Solubility	: Soluble in water. Soluble in alcohols.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: 715 °C
Decomposition temperature	: No data available

Phenol Solution 89%

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: Lower explosion limit: 1.7 vol % Upper explosion limit: 8.6 vol %
Explosive properties	: No data available
Oxidizing properties	: No data available

phenol	
Boiling point	182 °C (1013 hPa)
Flash point	81 °C (Closed cup, 1013 hPa)
Auto-ignition temperature	715 °C (1013 hPa, T1)
Vapor pressure	0.2 hPa (20 °C)
Vapor pressure at 50°C	3.3 hPa (Antoine equation)

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Toxic in contact with skin.
Acute toxicity (inhalation)	: Inhalation:dust,mist: Toxic if inhaled.

Phenol Solution 89%	
ATE US (oral)	730.337 mg/kg body weight
ATE US (dermal)	741.573 mg/kg body weight
ATE US (dust, mist)	0.562 mg/l/4h

Phenol Solution 89%

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

phenol (108-95-2)	
LD50 oral rat	650 mg/kg (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Aqueous solution, Oral, 14 day(s))
LD50 dermal rat	660 mg/kg (Equivalent or similar to OECD 402, 24 h, Rat, Female, Experimental value, Dermal, 7 day(s))
LC50 Inhalation - Rat	> 0.9 mg/l air (Equivalent or similar to OECD 403, 8 h, Rat, Female, Experimental value, Inhalation (aerosol), 14 day(s))
ATE US (oral)	650 mg/kg body weight
ATE US (dermal)	660 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h

Skin corrosion/irritation : Causes severe skin burns.
pH: 0 (> 3.5 – < 4.2)

phenol (108-95-2)	
pH	No data available in the literature

Serious eye damage/irritation : Causes serious eye damage.
pH: 0 (> 3.5 – < 4.2)

phenol (108-95-2)	
pH	No data available in the literature

Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Suspected of causing genetic defects.
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

phenol (108-95-2)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified
Viscosity, kinematic : No data available

phenol (108-95-2)	
Viscosity, kinematic	No data available in the literature

Symptoms/effects after inhalation : Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
Symptoms/effects after skin contact : Burns.
Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : Burns.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects.

Phenol Solution 89%

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

phenol (108-95-2)	
LC50 - Fish [1]	8.9 mg/l (US EPA, 96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	3.1 mg/l (US EPA, 48 h, Ceriodaphnia dubia, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 96h - Algae [1]	61 mg/l (US EPA, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Cell numbers)

12.2. Persistence and degradability

Phenol Solution 89%	
Persistence and degradability	Not rapidly degradable
phenol (108-95-2)	
Persistence and degradability	Biodegradable in the soil, Readily biodegradable in water, Readily biodegradable in water in anaerobic conditions.
Biochemical oxygen demand (BOD)	1.7 g O ₂ /g substance
Chemical oxygen demand (COD)	2.3 g O ₂ /g substance
ThOD	2.4 g O ₂ /g substance
Water (7732-18-5)	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

phenol (108-95-2)	
BCF - Fish [1]	18 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 h, Danio rerio, Flow-through system, Fresh water, Experimental value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	1.5 (Experimental value, Equivalent or similar to OECD 117, 30 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

phenol (108-95-2)	
Surface tension	71.3 mN/m (20 °C, 0.118 %)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.2 – 1.9 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.

Phenol Solution 89%

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Product/Packaging disposal recommendations : Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

DOT NA No : UN2821
UN-No. (TDG) : UN2821
UN-No. (IMDG) : 2821
UN-No. (IATA) : 2821

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Phenol solutions
Proper Shipping Name (TDG) : PHENOL SOLUTION
Proper Shipping Name (IMDG) : PHENOL SOLUTION
Proper Shipping Name (IATA) : Phenol solution

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 6.1
Hazard labels (DOT) : 6.1



TDG

Transport hazard class(es) (TDG) : 6.1
Hazard labels (TDG) : 6.1



IMDG

Transport hazard class(es) (IMDG) : 6.1
Hazard labels (IMDG) : 6.1



IATA

Transport hazard class(es) (IATA) : 6.1
Hazard labels (IATA) : 6.1



Phenol Solution 89%

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

14.4. Packing group

Packing group (DOT)	: II
Packing group (TDG)	: II
Packing group (IMDG)	: II
Packing group (IATA)	: II

14.5. Environmental hazards

Dangerous for the environment	: Yes
Marine pollutant	: Yes



Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT)	: UN2821
DOT Special Provisions (49 CFR 172.102)	: IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3) TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 153
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 202
DOT Packaging Bulk (49 CFR 173.xxx)	: 243
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

TDG

UN-No. (TDG)	: UN2821
Explosive Limit and Limited Quantity Index	: 0.1 L
Excepted quantities (TDG)	: E4
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: 5 L
Emergency Response Guide (ERG) Number	: 153

IMDG

Limited quantities (IMDG)	: 100 ml
Excepted quantities (IMDG)	: E4
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T7
Tank special provisions (IMDG)	: TP2
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE

Phenol Solution 89%

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

EmS-No. (Spillage) : S-A - SPILLAGE SCHEDULE Alfa - TOXIC SUBSTANCES
Stowage category (IMDG) : A
Properties and observations (IMDG) : Yellowish solutions with a perceptible odour. Toxic if swallowed, by skin contact or by inhalation.
Rapidly absorbed through the skin.

IATA

PCA Excepted quantities (IATA) : E4
PCA Limited quantities (IATA) : Y641
PCA limited quantity max net quantity (IATA) : 1L
PCA packing instructions (IATA) : 654
PCA max net quantity (IATA) : 5L
CAO packing instructions (IATA) : 662
CAO max net quantity (IATA) : 60L
Special provision (IATA) : A3
ERG code (IATA) : 6L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

phenol	CAS-No. 108-95-2	89%
--------	------------------	-----

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Water (7732-18-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Phenol Solution 89%

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases	
H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H331	Toxic if inhaled
H341	Suspected of causing genetic defects
H373	May cause damage to organs through prolonged or repeated exposure
H411	Toxic to aquatic life with long lasting effects

NFPA health hazard

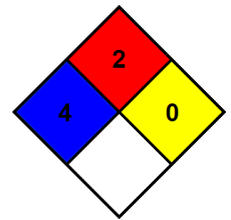
: 4 - Materials that, under emergency conditions, can be lethal.

NFPA fire hazard

: 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



Safety Data Sheet (SDS), USA

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only 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. EDM3 shall not be liable for any damage resulting from handling.