

Formalin, Neutral Buffered 20%

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Formalin, Neutral Buffered 20%
Product code: 3299-5G

Supplier: Astral Diagnostics Inc.
800-441-0366 Technical Service
Monday-Friday: 8:00 -5:00 PM

Synonym: None.
Material uses: Laboratory Reagent.
Validation date: 12/09/2013
In case of emergency: 800-424-9300 CHEMTREC (USA)
24 Hours/Day: 7 Days/Week

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Cancer Hazard, toxic by inhalation and ingestion, toxic to skin, skin sensitizer and irritant

Target Organs: Eyes, Kidney, Liver, Heart, Central Nervous System

GHS Classification: Flammable Liquid (Cat 4), Acute Toxicity, Oral (Cat 4), Skin Irritation (Cat 2), Serious Eye Damage (Cat 1), Skin Sensitisation (Cat 1), Carcinogenicity (Cat 1), Specific Target Organ Toxicity (Cat 1)

GHS Label Elements: Pictogram



Hazardous Statement(s)

H302; Harmful if swallowed (Cat 4)
H315; Causes skin irritation (Cat 2)
H317; Causes an allergic skin reaction (Cat 1)
H318; Causes serious eye irritation Cat 2)
H341; Suspected of causing genetic defects (Cat 2)
H350; May cause cancer (Cat 1)
H370; May cause damage to organs (Cat 2)

Precautionary Statement(s)

P260; Do not breathe gas/vapors
P264; Wash skin thoroughly after handling product
P280; Wear protective gloves/protective clothing/eye protection/ face protection
P301; IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell

HMIS Classification

Health hazard: 2
Flammability: 0
Physical hazards: 0

NFPA Rating

Health hazard: 2

Fire: 0

Reactivity Hazard: 0

Potential Health Effects

Inhalation - May be harmful if inhaled. Causes respiratory tract irritation.

Skin - May be harmful if absorbed through skin. Causes skin irritation.

Eyes - Causes eye irritation.

Ingestion - May be harmful if swallowed.

Target Organs

Central Nervous System (CNS), Skin, Liver, Kidney, Spleen, Blood

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Name | CAS number | % |
|-----------------------------|------------|---------|
| Formaldehyde | 50-00-0 | ~20 v/v |
| Sodium Phosphate, Monobasic | 7558-80-7 | < 1 w/v |
| Sodium Phosphate, Dibasic | 10049-21-0 | < 1 w/v |
| Methyl Alcohol | 67-56-1 | ~ 1 w/w |
| Water | 7732-18-5 | ~90 v/v |

4. FIRST AID MEASURES

- Eye contact:** Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact:** In case of contact, flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation:** Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion:** Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

- Extinguishing media:** Water spray, dry chemical, CO2 and foam
- Not suitable:** None known.
- Special exposure hazards:** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without training.
- Hazardous thermal decomposition products:** No specific data.
- Special protective equipment for fire-fighters:** Wear protective clothing with NIOSH approve breathing apparatus. Product of combustion may be harmful in a fire situation. Do not use direct water stream.
- Special remarks on explosion hazards:** May emit toxic fumes under fire conditions

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions:** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Spill:** Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas.

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Note: see section 1 for emergency contact information and section 13 for waste disposal. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container

7. HANDLING AND STORAGE

- Handling:** Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage:** Store in accordance with local regulations. Store in a segregated and approved area. Store in original container, protected from direct sunlight. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Consult local authorities for acceptable exposure limits.

- Engineering measures:** Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Formaldehyde CAS 50-00-0 OSHA PEL 0.75ppm, 2ppm STEL; ACGIH 0.3ppm
Methanol CAS 67-56-1, OSHA PEL 200ppm; ACGIH, STEL 250ppm, TWA 200ppm

- Hygiene measures:** Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

- Respiratory:** Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands:** Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Eyes:** Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Recommended: splash goggles
- Skin:** Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: lab coat
- Environmental exposure controls:** Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid

| | |
|------------------------------------|--|
| Color: | Colorless |
| Odor: | Characteristic formaldehyde |
| pH: | 6.9 – 7.1 |
| Boiling/condensation point: | 215° F |
| Melting/freezing point: | Not available. |
| Relative density: | ≥ 1 |
| Vapor pressure: | Not available. |
| Vapor density: | Not available. |
| Odor threshold: | Not available. |
| Evaporation rate: | 0.36 (Water) compared with(n-Butyl Acetate =1) |
| Solubility: | Soluble in the following materials: water |

10. STABILITY AND REACTIVITY

| | |
|--|--|
| Chemical stability: | The product is stable. |
| Possibility of hazardous reactions: | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Hazardous polymerization: | Under normal conditions of storage and use, hazardous polymerization will not occur. |
| Conditions to avoid: | Excessive heat. |
| Hazardous decomposition products: | Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under fire condition; carbon oxides |

11. TOXICOLOGICAL INFORMATION

Principle Routes of Exposure: Skin, Eyes and Respiratory Tract

Ingestion: May cause pain, nausea, vomiting and diarrhea. Lower doses may decreased body temperature, pain in digestive tract, shallow respiration, weak pulse unconsciousness and death.

Skin: May cause skin irritation, scaling, cracking with redness, pain and including allergic skin reaction

Inhalation: Vapor could be toxic, cause severe irritation and sensitization. Symptoms include a burning sensation, coughing, shortness of breath, nausea, headache or dizziness. Severe over-exposure may produce lung damage, or choking or death.

Eye Contact: Vapors may cause eye irritation, pain and blurred vision.

Carcinogenicity: IARC, Listed; NTP, Known or suspect carcinogen; ACGIH, Confirmed or suspect carcinogen to Humans; Select or possible select carcinogen.

Mutagenicity: No known significant effects or critical hazards. Lab animal studies suggest formaldehyde may be Mutagenic.

Teratogenicity: No known significant effects or critical hazards except possibly in laboratory animals.

Reproductive: No known significant effects or critical hazards except possibly in laboratory animals.

Acute toxicity; Oral LD50 NA, Inhalation LC50 NA, Dermal LD50 NA,

12. ECOLOGICAL INFORMATION

Environmental effects: Formaldehyde has a half-life of less than one day. Readily biodegradable
Other adverse effects: No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and

disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

Not regulated.

15. REGULATORY INFORMATION

Sodium Phosphate monobasic and dibasic and formaldehyde are listed on TSCA (formaldehyde is NL on TSCA), FORMA, DSL, PICCS, ENCS, AICS, China and KECL inventory. Methanol is below the threshold of 1% for SARA 313 values.

SARA 311/312 Hazardous Categorization: Acute Health Hazard, No; Chronic HH, Yes; Fire Hazard, No; Sudden Release of Pressure and Reactive Hazard, No

CWA: Sodium phosphate dibasic and formaldehyde are listed as hazardous substance. RQ for phosphate is 5000 lbs

CWA: Formaldehyde is listed as a HAP

OSHA Hazards

Irritant

CERCLA/SARA 302: Listed SARA Title III, Section 302.

SARA 313: This material does contain formaldehyde and is subject to the reporting requirements of SARA 313 Emissions Reporting.

SARA 311/312 Hazards

Acute Health Hazard, Formaldehyde, CAS 50-00-0

California Proposition 65, Listed; This product contains a chemical known to cause cancer

Florida Substance List, Listed

Massachusetts Right To Know Components, Listed

Minnesota Hazardous Substance List, Listed

New Jersey Right To Know Components, Listed

Pennsylvania Right To Know Components, Listed

Rhode Island Hazardous Substance List, Listed

US Department of Homeland Security

Sodium Phosphate Monobasic, Standard 2000 lbs

Formaldehyde, Standard 12500 lbs (Solution)

Other International Regulations

Mexico - Grade 1, Slight Risk

Canada WHMIS Hazardous Class; D2A Very Toxic Material
D2B Toxic Material

16. OTHER INFORMATION

National Fire Protection Association (U.S.A.)



H225; Highly Flammable Liquids

H301, H311; Toxic if swallowed, in contact with skin or if inhaled

H331;

H314; Causes severe skin burns and eye damage

H317; May cause an allergic skin reaction

H351; Suspected of causing cancer

H370; Causes damage to organs

Notice to reader

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. Astral Diagnostics Inc. shall not be liable for any damage resulting from handling of contact with this product.