

SECTION 1 - CHEMICAL IDENTIFICATION

PRODUCT NAME: Formalin 10% Neutral Buffered Solution
 CATALOG #: DSF10800
 SUPPLIER'S NAME: DOT SCIENTIFIC INC.
 SUPPLIERS ADDRESS: 4165 Lippincott, Burton, MI 48519
 EMERGENCY CONTACT: 1-800-424-9300 (Reference Customer Number: 18739)
 OTHER INFORMATION: 1-800-878-1785
 OTHER INFORMATION: 800-878-1785

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

| | | |
|------|---|-------------|
| H315 | Skin corrosion/irritation | Category 2 |
| H317 | Skin Sensitisation | Category 1 |
| H318 | Serious eye damage | Category 1 |
| H350 | Carcinogenicity | Category 1A |
| H370 | Specific target organ toxicity - single exposure | Category 1 |
| H371 | Specific target organ toxicity - single exposure | Category 2 |
| H373 | Specific target organ toxicity, repeated exposure | Category 2 |

2.2 GHS Label elements, including Hazard and Precautionary Statement(s)

Pictogram



Signal word: Danger
Hazard statement(s)

| | |
|------|---|
| H315 | Causes skin irritation |
| H317 | May cause an allergic skin reaction |
| H318 | Causes serious eye damage |
| H350 | May causing cancer |
| H370 | Causes damage to organs. |
| H371 | May Cause damage to organs. |
| H373 | May cause damage to organs prolonged or repeated exposure |

Prevention, Response, Storage and Disposal Precautionary Statement(s)

| | |
|------|---|
| 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/gas/mist/vapors/spray. |
| P261 | Avoid breathing dust/fume/gas/mist/vapors/spray. |
| P264 | Wash skin thoroughly after handling |

| | |
|--------------------|--|
| P270 | Do not eat, drink or smoke when using this product. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |
| P302 + P352 | IF ON SKIN: Wash with plenty of soap and water. |
| 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 + P311 | IF exposed or concerned: call a POISON CENTER or doctor/ physician |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| P310 | Immediately call a POISON CENTER or doctor/ physician |
| P314 | Get medical advice/attention if you feel unwell. |
| P321 | Specific treatment (see. on this label). |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P362 + P364 | Take off contaminated clothing and wash before reuse. |
| P405 | Store locked up. |
| P501 | Dispose of contents/ container to an approved waste disposal plant. |

SECTION 3- COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS Number | EINECS Number | Composition |
|-----------------------------|-------------------|----------------------|--------------------|
| Water | 7732-18-5 | 231-791-2 | Q.S |
| Formaldehyde | 50-00-0 | 200-001-8 | 3.7 % |
| Methyl alcohol | 67-56-1 | 200-659-6 | 1.2% |
| Sodium Phosphate Dibasic | 7558-79-4 | 231-448-7 | 6.5 g/L |
| Sodium Phosphate, Monobasic | 7558-80-7 | 231-449-2 | 4.0 g/L |

SECTION 4 - FIRST-AID MEASURES

4.1 Description of first aid measures

General advice: Consult a doctor and show this safety data sheet.

- i. **If inhaled:** Remove to fresh air and monitor breathing. If breathing becomes difficult, give oxygen. If breathing stops, give artificial respiration. Consult a doctor.
- ii. **In case of skin contact:** Immediately wash skin with copious amounts of soap and water for at least 15 minutes. Remove contaminated clothing and shoes and wash before reuse. Consult a doctor.
- iii. **In case of eye contact:** Flush with copious amounts of water for at least 15 minutes. Consult a doctor.
- iv. **If swallowed:** Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Consult a doctor.

4.2 Most important symptoms and effects, both acute and delayed: To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

4.3 Indication of immediate medical attention and special treatment needed: Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

5.2 Special hazards arising from the substance or mixture: Formaldehyde Methanol Carbon monoxide (CO) Carbon dioxide (CO2).

5.3 Precautions for fire-fighters: Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.

5.4 Further information: No data available

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Do not take action without suitable protective clothing - see section 8 of SDS. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist, dust or gas.

6.2 Environmental precautions: Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up: Cover spillage with suitable absorbent material. Using non-spark tools, sweep up material and place in an appropriate container. Decontaminate spill site with 10% caustic solution and ventilate area until after disposal is complete. Hold all material for appropriate disposal as described under section 13 of SDS.

6.4 Reference to other sections: For required PPE see section 8. For disposal see section 13.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for safe handling: Use in a chemical fume hood, with air supplied by an independent system. Avoid inhalation, contact with eyes, skin and clothing. Avoid the formation of dust and aerosols. Use in a well-ventilated area. Keep away from sources of ignition. Avoid prolonged or repeated exposure.

7.2 Conditions for safe storage, including any incompatibilities: Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use. Keep in a dry place. Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects.

7.3 Specific end use(s): Use in a laboratory fume hood where possible. Refer to employer's COSHH risk assessment.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters:

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|------------------|---|--|--|
| Formaldehyde | Ceiling: 0.3 ppm | (Vacated) TWA: 3 ppm (Vacated) STEL: 10 ppm (Vacated) Ceiling: 5 ppm TWA: 0.75 ppm STEL: 2 ppm | IDLH: 20 ppm TWA: 0.016 ppm Ceiling: 0.1 ppm |
| Methyl Alcohol | TWA: 200 ppm STEL: 250 ppm Skin | (Vacated) TWA: 200 ppm (Vacated) TWA: 260 mg/m ³ (Vacated) STEL: 250 ppm (Vacated) STEL: 325 mg/m ³ Skin TWA: 200 ppm TWA: 260 mg/m ³ | IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m ³ STEL: 250 ppm STEL: 325 mg/m ³ |
| Component | Quebec | Mexico OEL (TWA) | Ontario TWAEV |
| Formaldehyde | Ceiling: 2 ppm Ceiling: 3 mg/m ³ | Ceiling: 2 ppm Ceiling: 3 mg/m ³ | STEL: 1.0 ppm CEV: 1.5 ppm |
| Methyl Alcohol | TWA: 200 ppm TWA: 262 mg/m ³ STEL: 250 ppm STEL: 328 mg/m ³ Skin | TWA: 200 ppm TWA: 260 mg/m ³ STEL: 250 ppm STEL: 310 mg/m ³ | TWA: 200 ppm STEL: 250 ppm Skin |

❖ **ACGIH:** American Conference of Governmental Industrial Hygienists.

❖ **OSHA:** Occupational Safety and Health Administration.

❖ **NIOSH IDLH:** The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health.

8.2 Exposure Controls

- i. **Appropriate engineering controls:** Use in a fume hood where applicable. Ensure all engineering measures described under section 7 of SDS are in place. Ensure laboratory is equipped with a safety shower and eye wash station.

8.3 Personal protective equipment

- i. **Eye/face protection:** Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
- ii. **Skin protection:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166
- iii. **Body Protection:** Wear appropriate protective clothing. Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- iv. **Respiratory Protection:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
- v. **Control of environmental exposure:** Do not let product enter drains

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|---|-------------------|----------------------------------|-------------------|
| Appearance | Liquid | Vapor Pressure | No Data Available |
| Odor | No Data Available | Vapor Density | No Data Available |
| Odor Threshold | No Data Available | Relative Density | No Data Available |
| pH | No Data Available | Water Solubility | No Data Available |
| Melting / Freezing Point | No Data Available | Partition Coefficient | No Data Available |
| Initial Boiling Point Range | No Data Available | Auto-Ignition Temperature | No Data Available |
| Flash Point | > 93.3 °C | Decomposition Temperature | No Data Available |
| Evaporation Rate | No Data Available | Viscosity | No Data Available |
| Flammability (Solid, Gas) | No Data Available | Explosive Properties | No Data Available |
| Upper / Lower Flammability Or Explosive Limits | No Data Available | Oxidizing Properties | No Data Available |

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions.

Hazardous Decomposition Products: Formaldehyde, Methanol, Carbon monoxide (CO), Carbon dioxide (CO₂).

Hazardous Polymerization: Not Listed

Incompatibilities: Strong oxidizing agents, Strong acids, Strong bases.

Conditions to Avoid: Incompatible products. Heat, flames and sparks.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute Toxicity

| Component | LD50 Oral | LD50 Dermal | LD50 Inhalation |
|-----------------------------|--------------------|------------------------|--|
| Formaldehyde | 500 mg/kg (Rat) | 270 mg/kg (Rabbit) | 0.578 mg/L (Rat) 4 h |
| Methyl Alcohol | 6200 mg/kg (Rat) | 15800 mg/kg (Rabbit) | 64000 ppm (Rat) 4 h 22500 ppm (Rat) 8 h |
| Sodium Phosphate Dibasic | 17 g/kg (Rat) | Not Listed | Not Listed |
| Sodium Phosphate, Monobasic | 8290 mg/kg (Rat) | 7940 mg/kg (Rabbit) | Not Listed |

Carcinogenicity

| Component | IARC | NTP | ACGIH | OSHA | Mexico |
|--------------|--------------------------------|--------------------|---------------------------------|--------|---------------------------------|
| Formaldehyde | Group1(Carcinogenic to Humans) | Known (Carcinogen) | A2 (Suspected Human Carcinogen) | Listed | A2 (Suspected Human Carcinogen) |

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity

| Component | Freshwater Fish | Microtox | Water Flea |
|-----------|-----------------|----------|------------|
|-----------|-----------------|----------|------------|

| | | | |
|----------------|--|---|---|
| Formaldehyde | Leusiscus idus: LC50 = 15 mg/L 96h | Not Listed | EC50 = 20 mg/L 96h EC50 = 2 mg/L 48h |
| Methyl Alcohol | Pimephales promelas: LC50 > 10000 mg/L 96h | EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min | EC50 > 10000 mg/L 24h |

Mobility

| Component | log Pow |
|----------------|---------|
| Formaldehyde | -0.35 |
| Methyl Alcohol | -0.74 |

Persistence and degradability/ Bioaccumulative potential: No data available

Results of PBT and vPvB assessment/ other adverse effects: No data available

SECTION 13 - DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

| Component | RCRA - U Series Wastes | RCRA - P Series Wastes |
|----------------|------------------------|------------------------|
| Formaldehyde | U122 | - |
| Methyl Alcohol | U154 | - |

SECTION 14 - TRANSPORT INFORMATION

| DOT | TDG | IATA | IMDG/IMO |
|---------------|---------------|---------------|---------------|
| Not regulated | Not regulated | Not regulated | Not regulated |

SECTION 15 - REGULATORY INFORMATION

INTERNATIONAL INVENTORIES

| INGREDIENT: WATER | | | | | CAS #:7732-18-5 | | EINECS: 231-791-2 | | |
|-------------------|--------|------|--------|-----|-----------------|------|-------------------|--------|--------|
| TSCA | DSL | NDSL | ELINCS | NLP | PICCS | ENCS | AICS | CHINA | KECL |
| Listed | Listed | - | - | - | Listed | - | Listed | Listed | Listed |

| INGREDIENT: Formaldehyde | | | | | CAS #:50-00-0 | | EINECS: 200-001-8 | | |
|--------------------------|--------|------|--------|-----|---------------|--------|-------------------|--------|--------|
| TSCA | DSL | NDSL | ELINCS | NLP | PICCS | ENCS | AICS | CHINA | KECL |
| Listed | Listed | - | - | - | Listed | Listed | Listed | Listed | Listed |

| INGREDIENT: Methyl Alcohol | | | | | CAS #:67-56-1 | | EINECS: 200-659-6 | | |
|----------------------------|--------|------|--------|-----|---------------|--------|-------------------|--------|--------|
| TSCA | DSL | NDSL | ELINCS | NLP | PICCS | ENCS | AICS | CHINA | KECL |
| Listed | Listed | - | - | - | Listed | Listed | Listed | Listed | Listed |

| INGREDIENT: Sodium Phosphate Dibasic | | | | | CAS #:7558-79-4 | | EINECS: 231-448-7 | | |
|--------------------------------------|--------|------|--------|-----|-----------------|--------|-------------------|--------|--------|
| TSCA | DSL | NDSL | ELINCS | NLP | PICCS | ENCS | AICS | CHINA | KECL |
| Listed | Listed | - | - | - | Listed | Listed | Listed | Listed | Listed |

| INGREDIENT: Sodium Phosphate, Monobasic | | | | | CAS #:7558-80-7 | | EINECS: 231-449-2 | | |
|---|--------|------|--------|-----|-----------------|--------|-------------------|--------|--------|
| TSCA | DSL | NDSL | ELINCS | NLP | PICCS | ENCS | AICS | CHINA | KECL |
| Listed | Listed | - | - | - | Listed | Listed | Listed | Listed | Listed |

**USA FEDERAL REGULATION
SARA 311/312 HAZARDOUS CATEGORIZATION**

4168 Lippincott · Burton, Michigan 48519
Phone: (810) 744-1475 · Toll Free: (800) 878-1785 · Fax: (810) 744-2865
E-Mail: sales@dotscientific.com · Website: www.dotscientific.com

| Acute Health Hazard | Chronic Health Hazard | Fire Hazard | Sudden Release Of Pressure Hazard | Reactive Hazard |
|---------------------|-----------------------|-------------|-----------------------------------|-----------------|
| Yes | Yes | No | No | No |

SARA 313

| Component | CAS# | Weight % | SARA 313 – Threshold Values % |
|----------------|---------|----------|-------------------------------|
| Formaldehyde | 50-00-0 | 3.7 | 0.1 |
| Methyl Alcohol | 67-56-1 | 1.2 | 1.0 |

Clean Water Act

| Component | CWA – Hazardous Substances | CWA – Reportable Quantities |
|--------------------------|----------------------------|-----------------------------|
| Formaldehyde | Listed | 100 lb |
| Sodium Phosphate Dibasic | Listed | 5000 lb |

Clean Air Act

| Component | HAPS Data |
|----------------|-----------|
| Formaldehyde | Listed |
| Methyl Alcohol | Listed |

OSHA

| Component | Specifically Regulated Chemicals | Highly Hazardous Chemicals |
|--------------|--|----------------------------|
| Formaldehyde | 2 ppm STEL 0.5 ppm Action Level 0.75 ppm TWA | TQ: 1000 lb |

CERCLA

| Component | Hazardous Substances RQs | CERCLA EHS RQs |
|--------------------------|--------------------------|----------------|
| Formaldehyde | 100 lb | 100 lb |
| Methyl Alcohol | 5000 lb | - |
| Sodium Phosphate Dibasic | 5000 lb | - |

TSCA 12(b): Not Applicable

California Proposition 65: This product contains Proposition 65 chemicals.

| Component | CAS# | California Prop. 65 | Prop 65 NSRL | Category |
|----------------|---------|---------------------|--------------|---------------|
| Formaldehyde | 50-00-0 | Carcinogen | 40 µg/day | Carcinogen |
| Methyl Alcohol | 67-56-1 | Developmental | - | Developmental |

HMIS Rating

| Health Hazard | Flammability | Physical Hazard |
|---------------|--------------|-----------------|
| 3 | 1 | 0 |

NFPA Rating

| Health Hazard | Flammability | Reactivity Hazard |
|---------------|--------------|-------------------|
| 3 | 1 | 0 |

STATE RIGHT TO KNOW

| Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|---------------|------------|--------------|----------|--------------|
| Listed | Listed | Listed | Listed | Listed |

US DEPARTMENT OF TRANSPORTATION

| REPORTABLE QUANTITY (RQ) | DOT MARINE POLLUTANT | DOT SEVER MARINE POLLUTANT |
|--------------------------|----------------------|----------------------------|
| Yes | No | No |

U.S. DEPARTMENT OF HOMELAND SECURITY: This product contains the following DHS chemicals

4168 Lippincott · Burton, Michigan 48519
 Phone: (810) 744-1475 · Toll Free: (800) 878-1785 · Fax: (810) 744-2865
 E-Mail: sales@dotscientific.com · Website: www.dotscientific.com

| Component | DHS Chemical Facility Anti-Terrorism Standard |
|-----------------------------|---|
| Formaldehyde | 11250 lb STQ (solution) |
| Sodium Phosphate, Monobasic | 2000 lb STQ |

Canada: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Mexico - Grade: Slight Risk, Grade 1

This SDS complies with the requirements of Regulation (EC).

SECTION 16 - OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. DOT SCIENTIFIC INC. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. This product is sold for laboratory research and development purposes use only. REV October 2015