

Part Number: 1215

**1. PRODUCT AND COMPANY IDENTIFICATION**

- 1.1 Product Name:** Karnovsky Fixative  
**Part Number:** 1215  
**CAS-No.:** Not applicable  
**SDS Number:** 3380
- 1.2 Recommended Use:** Laboratory Chemicals
- 1.3 Company:** Newcomer Supply  
 2505 Parview Road  
 Middleton, WI 53562 USA
- Telephone:** 1-800-383-7799  
**Fax:** 1-608-831-0866  
**Website:** [www.newcomersupply.com](http://www.newcomersupply.com)  
**Email:** [newly@newcomersupply.com](mailto:newly@newcomersupply.com)

24 HOUR EMERGENCY CONTACT  
 CALL CHEMTREC: 1-800-424-9300  
 Contact CHEMTREC only in the event of  
 an emergency involving a chemical spill,  
 leak, fire, exposure or other accident.

**2. HAZARD(S) IDENTIFICATION**

- 2.1 Classification of the substance or mixture**  
 GHS Classification, (in accordance with 29 CFR1910.1200)  
 Flammable liquid, Category 4  
 Acute toxicity (oral), Category 3  
 Acute toxicity (dermal), Category 3  
 Acute toxicity (inhalation), Category 1  
 Skin corrosion, Category 1B  
 Serious eye damage, Category 1  
 Skin sensitisation, Category 1  
 Respiratory sensitization, Category 1  
 Carcinogenicity, Category 1A  
 Specific Target Organ Toxicity – Single exposure, Category 1  
 Specific Target Organ Toxicity – Repeated exposure, Category 1  
 Reproductive toxicity, Category 1B

**2.2 GHS Label elements**

**Signal Word** DANGER

**Pictogram**



**Hazard Statement(s):**

- Combustible liquid
- Toxic if swallowed
- Toxic in contact with skin
- Fatal if inhaled
- Causes severe skin burns and eye damage
- May cause an allergic skin reaction
- May cause allergy or asthma symptoms or breathing difficulties if inhaled
- May cause cancer
- Causes damage to organs
- Causes damage to organs through prolonged or repeated exposure
- May damage fertility or the unborn child

**Precautionary Statement(s):**

**Prevention:**

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Keep away from heat/sparks/open flames/hot surfaces – No smoking.
- Do not breathe dust/fume/gas/mist/vapours/spray.

Part Number: 1215

- In case of inadequate ventilation wear respiratory protection.
- Wash skin thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Contaminated work clothing should not be allowed out of the workplace.
- Wear protective gloves/protective clothing/eye protection/face protection.

**Response:**

- In case of fire use carbon dioxide, dry chemical or alcohol-resistant foam.
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Wash contaminated clothing before reuse.
- If skin irritation or a rash occurs: Get medical advice/attention.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- Specific treatment is urgent: see first aid measures in section 4.
- Immediately call a POISON CENTER or doctor/physician.

**Storage:**

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

**Disposal:**

- Dispose of contents/ container to an approved waste disposal plant.

**2.3 Description of any hazards not otherwise classified**                      None

**2.4 >1% of mixture with unknown acute toxicity**                                      None

**3. COMPOSITION/INFORMATION ON INGREDIENTS**
**3.2 Mixture**
**Hazardous Components**

Component		Concentration
Name	Paraformaldehyde	
CAS-No.	30525-89-4	3-5%
Name	Sodium Hydroxide	
CAS-No.	1310-73-2	<1%
Name	Glutaraldehyde	
CAS-No.	111-30-8	4-7%

**4. FIRST-AID MEASURES**
**4.1 Description of necessary measures**
**Inhalation (breathing)**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

**Skin Contact**

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor/physician.

**Eye Contact**

Part Number: 1215

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.

**Ingestion (swallowed)**

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

**4.2 Most important symptoms and or effects, acute and delayed**

The most important symptoms/effects are presented in Section 2 and or Section 11.

**4.3 Indication of any immediate medical attention and special treatment needed**

No data available

**5. FIRE-FIGHTING MEASURES**
**5.1 Suitable extinguishing media**

Carbon dioxide, dry chemical, water spray, alcohol-resistant foam.

**5.2 Specific hazards arising from the substance or mixture**

No data available

**5.3 Protective equipment and precautions for fire-fighters**

Wear a positive-pressure self-contained breathing apparatus if necessary. Wear chemical resistant clothing as recommended by clothing manufacturer.

**NFPA Rating**

Health	Fire	Reactivity
hazard: 2	hazard: 1	hazard: 0

**6. ACCIDENTAL RELEASE MEASURES**
**6.1 Personal precautions, protective equipment and emergency procedures**

Apply personal protective equipment (see Section 8). Use in a properly ventilated area. Avoid breathing vapors. Avoid skin contact. Avoid eye contact. Wash hands after use. In case of large spill, remove personnel to a safe area. Keep product away from heat, flame, ignition sources, and reactive materials. Avoid accumulation of vapor to form explosive concentration. Pay particular attention to low areas where vapor accumulates more easily.

**6.2 Methods and material for containment and cleaning up**

Apply personal protective equipment (see Section 8). Ensure proper ventilation. Contain spill. Prevent further leakage if possible and safe to do so. Evacuate area and limit access. Prevent entry of material into sewage drains and confined areas. Dispose of any contaminated materials according to local regulations. Eliminate sources of ignition.

**7. HANDLING AND STORAGE**
**7.1 Precautions for safe handling**

Keep away from heat/sparks/open flames/hot surfaces – No smoking. Do not breathe dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection.

**7.2 Conditions for safe storage, including any incompatibilities**

Refer to Section 2.2 for proper storage temperature. Store the tightly closed container in a cool, dry, well-ventilated area.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**
**8.1 Control Parameters**

Part Number: 1215

Components with limit values that require monitoring at the workplace

Component	CAS-No.	Regulatory	Value	Parameters
Formaldehyde	50-00-0	OSHA PEL	TWA	0.75 ppm
		OSHA PEL	STEL	2 ppm
		ACGIH TLV	C	0.3 ppm (0.37 mg/m <sup>3</sup> )
		NIOSH REL	TWA	0.016 ppm
		NIOSH REL	C	0.1 ppm 15-minute

Component	CAS-No.	Regulatory	Value	Parameters
Paraformaldehyde	30525-89-4	OSHA PEL	TWA	0.75 ppm
		OSHA PEL	STEL	2 ppm
		NIOSH REL	STEL	0.016 ppm
		NIOSH REL	TWA	2 ppm
		ACGIH TLV	C	0.3 ppm

Component	CAS-No.	Regulatory	Value	Parameters
Sodium Hydroxide	1310-73-2	OSHA PEL	TWA	2 mg/m <sup>3</sup>
		ACGIH TLV	C	2 mg/m <sup>3</sup>
		NIOSH REL	C	2 mg/m <sup>3</sup>

Component	CAS-No.	Regulatory	Value	Parameters
Glutaraldehyde	111-30-8	ACGIH TLV	C	0.05 ppm (0.2 mg/m <sup>3</sup> )
		NIOSH REL	C	0.2 ppm (0.8 mg/m <sup>3</sup> )

## 8.2 Exposure Controls

### Appropriate engineering controls

Use in a properly ventilated area. Remove/wash before reuse contaminated clothing. Wash hands upon exiting work premises. Use product in an appropriately designated fume hood. Take measures to keep concentrations below acceptable limits.

## 8.3 Personal Protective Equipment

### Eye/Face protection

Wear chemical safety goggles and/or a full face shield if splashing is possible. Keep eye wash fountain nearby.

### Skin Protection

Wear chemical-resistant gloves. Gloves should be resistant to components of product. Refer to glove manufacturer for appropriate type and glove thickness.

### Body Protection

No data available

### Respiratory Protection

Part Number: 1215

Respirators should only be used if the employer has implemented a written program that takes into account workplace conditions, requirements for worker training, respirator fit testing, and medical exams, as described in the OSHA Respiratory Protection Standard (29 CFR 1910.134).

Formaldehyde: Where the potential exists for exposure over 0.016 ppm: use a NIOSH approved supplied-air respirator with a full facepiece operated in a pressure-demand or other positive-pressure mode. For increased protection use in combination with an auxiliary self-contained breathing apparatus or an emergency escape air cylinder.

Exposure to 20 ppm is immediately dangerous to life and health. If the possibility of exposure above 20 ppm exists, use a NIOSH approved self-contained breathing apparatus with a full facepiece operated in a pressure-demand or other positive-pressure mode equipped with an emergency escape air cylinder. In case of emergency, entry into unknown concentrations, or escape, wear a self-contained positive-pressure breathing apparatus.

**Other Information**

None

**9. PHYSICAL AND CHEMICAL PROPERTIES**
**9.1 Information on basic physical and chemical properties**

Physical state	Translucent, colorless liquid
Odor	Pungent odor
Odor threshold	No data available
pH	No data available
Melting point/freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper flammability or explosive limits	No data available
Lower flammability or explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	No data available
Solubility(ies)	Water soluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available

**10. STABILITY AND REACTIVITY**
**10.1 Reactivity**

No data available

**10.2 Chemical stability**

Stable in a closed container within label-specified storage temperature and expiration date.

**10.3 Possibility of hazardous reactions**

No data available

**10.4 Conditions to avoid**

Heat, sparks, open flame, and ignition sources.

**10.5 Incompatible materials**

Part Number: 1215

Paraformaldehyde, glutaraldehyde, and sodium hydroxide are not compatible with oxidizing agents (such as perchlorates, peroxides, permanganates, chlorates, nitrates, chlorine, bromine and fluorine); strong acids (such as hydrochloric, sulfuric and nitric); strong bases (such as sodium hydroxide and potassium hydroxide); isocyanates; acid anhydrides; reducing agents (such as lithium, sodium, aluminum and their hydrides) and metals (such as brass, copper, steel and bronze). Glutaraldehyde is not compatible with amines; alcohols and ketones. Sodium hydroxide reacts with strong acids (such as hydrochloric, sulfuric and nitric); water; and moisture to rapidly release heat. Sodium hydroxide reacts with metals (such as aluminum, lead, tin and zinc) to form flammable and explosive hydrogen gas. Sodium hydroxide can form shock sensitive salts on contact with nitrogen containing compounds (such as nitromethane). Sodium hydroxide is not compatible with chlorinated solvents; ammonia; and organic materials. Sodium hydroxide can attack iron, copper, plastics, rubber and coatings.

#### 10.6 Hazardous decomposition products

Paraformaldehyde decomposes slowly in water to form toxic and flammable formaldehyde gas.

### 11. TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects

##### Inhalation exposure

No data available

##### Oral exposure

No data available

##### Dermal exposure

No data available

##### Skin corrosion/irritation

Paraformaldehyde, glutaraldehyde, and sodium hydroxide contact can severely irritate and burn the skin.

##### Serious eye damage/irritation

Paraformaldehyde, glutaraldehyde, and sodium hydroxide contact can severely irritate and burn the eyes with possible eye damage.

##### Respiratory or skin sensitization

Paraformaldehyde and glutaraldehyde may cause a skin allergy and an asthma-like allergy. Future exposure can cause asthma attacks with shortness of breath, wheezing, coughing, and/or chest tightness.

##### Germ Cell mutagenicity

No data available

##### Reproductive toxicity

No data available

##### Specific target organ toxicity - single exposure

No data available

##### Specific target organ toxicity - repeated exposure

Repeated high exposure to paraformaldehyde may affect the kidneys.

##### Aspiration hazard

No data available

##### Acute toxicity

Part Number: 1215

Formaldehyde:  
 LD50 rat oral 100 mg/kg  
 LD50 rat dermal 270 mg/kg  
 LC50 rat inhalation 0.48 mg/l/4 hours  
 Glutaraldehyde:  
 LD50 rat oral 134 mg/kg  
 Sodium hydroxide:  
 LD50 rat oral 140-340 mg/kg

**Carcinogenicity**

IARC: Formaldehyde: Group 1, carcinogenic to humans  
 NTP: Formaldehyde: Known human carcinogen  
 OSHA: Formaldehyde: Specifically regulated carcinogen

**Additional information**

RTECS: No data available

**12. ECOLOGICAL INFORMATION**
**12.1 Ecotoxicity**

No data available

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Other adverse effects**

No data available

**13. DISPOSAL CONSIDERATIONS**
**13.1 Waste disposal methods**
**Contents**

Dispose of contents in a safe manner to comply with local, state and federal regulations. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of packaging in a safe manner to comply with local, state and federal regulations. Contact a licensed professional waste disposal service to dispose of this material.

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

<b>UN-Number</b>	No data available
<b>Proper shipping name</b>	No data available
<b>Hazard class</b>	No data available
<b>Packing group</b>	No data available
<b>Environmental hazards</b>	No data available

**15. REGULATORY INFORMATION**
**15.1** No data available

**16. OTHER INFORMATION**

Part Number: 1215

Preparation Information

Newcomer Supply Inc.

800-383-7799

[www.newcomersupply.com](http://www.newcomersupply.com)

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