1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Name: **Davidson Fixative**
Part Number: 1045
CAS-No.: Not applicable
SDS Number: 2640

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
Email: 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 3
Acute toxicity (oral), Category 3
Acute toxicity (dermal), Category 3
Acute toxicity (inhalation), Category 1
Skin corrosion, Category 1
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):
· Flammable liquid and vapour
· 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.
· Keep container tightly closed.

· Ground/bond container and receiving equipment.
· Use explosion-proof fume hood/electrical/ventilating/light equipment.
· Use only non-sparking tools.
· Take precautionary measures against static discharge.
· Do not breathe dust/fume/gas/mist/vapours/spray.
· 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	Formaldehyde	
CAS-No.	50-00-0	12-14%
Name	Methyl Alcohol	
CAS-No.	67-56-1	1-2%
Name	Ethyl Alcohol	
CAS-No.	64-17-5	28-29%
Name	Isopropyl Alcohol	
CAS-No.	67-63-0	1-2%
Name	Glacial Acetic Acid	
CAS-No.	64-19-7	11%

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
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 hazard:	2	Fire hazard:	3	Reactivity 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

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^3)
		NIOSH REL	TWA	0.016 ppm
		NIOSH REL	C	0.1 ppm 15-minute

Component	CAS-No.	Regulatory	Value	Parameters
Methyl Alcohol	67-56-1	OSHA PEL	TWA	200 ppm (260 mg/m^3)
		ACGIH TLV	TWA	200 ppm (262 mg/m^3)
		ACGIH TLV	STEL	50 ppm (328 mg/m^3)
		NIOSH REL	TWA	200 ppm (260 mg/m^3)
		NIOSH REL	STEL	250 ppm (325 mg/m^3)

Component	CAS-No.	Regulatory	Value	Parameters
Ethyl Alcohol	64-17-5	OSHA PEL	TWA	1000 ppm (1900 mg/m^3)
		ACGIH TLV	TWA	1000 ppm (1880 mg/m^3)
		NIOSH REL	TWA	1000 ppm (1900 mg/m^3)

Component	CAS-No.	Regulatory	Value	Parameters
Isopropyl Alcohol	67-63-0	OSHA PEL	TWA	400 ppm (980 mg/m^3)
		ACGIH TLV	TWA	400 ppm (983 mg/m^3)
		ACGIH TLV	STEL	500 ppm (1,230 mg/m^3)
		NIOSH REL	TWA	400 ppm (980 mg/m^3)
		NIOSH REL	STEL	500 ppm (980 mg/m^3)

Component	CAS-No.	Regulatory	Value	Parameters
Acetic Acid	64-19-7	OSHA PEL	TWA	10 ppm (25 mg/m^3)
		ACGIH TLV	TWA	10 ppm (25 mg/m^3)
		ACGIH TLV	STEL	15 ppm (37 mg/m^3)
		NIOSH REL	TWA	10 ppm (25 mg/m^3)
		NIOSH REL	STEL	15 ppm (37 mg/m^3)

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

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.
Formaldehyde: 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	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)	Flammable liquid
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

Formaldehyde reacts violently with nitrogen oxides; oxidizing agents (such as perchlorates, peroxides, permanganates, chlorates, nitrates, chlorine, bromine and fluorine); mixtures of perchloric acid and aniline; nitromethane; magnesium carbonate; and hydrogen peroxide. Formaldehyde reacts with phenol and hydrogen chloride to form toxic bis(chloromethyl) ether. Formaldehyde is not compatible with strong acids (such as hydrochloric, sulfuric and nitric); strong bases (such as sodium hydroxide and potassium hydroxide); iodine; iron; silver; isocyanates; amines; anhydrides; and liquid oxygen.

10.6 Hazardous decomposition products
No data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Inhalation exposure

Formaldehyde: Difficulty in breathing was experienced at 10 to 20 ppm. Upper airway irritation and increased nasal airway resistance were reported at 0.1 to 25 ppm and lower airway and chronic pulmonary obstruction at 5 to 30 ppm. Inhaling formaldehyde can irritate the lungs. Higher exposures may cause a build-up of fluid in the lungs (pulmonary edema), a medical emergency. Inhaling ethyl alcohol, methyl alcohol, and isopropyl alcohol can irritate the nose, throat and lungs causing coughing and/or shortness of breath. Glacial Acetic Acid: (human data) Marked irritation of the nose, and upper respiratory tract which could not be tolerated for more than 3 minutes was noted at 816 to 1,226 ppm.

Oral exposure

Acute oral exposure to formaldehyde can result in serious systemic symptoms or death. Oral exposure to ethyl alcohol, methyl alcohol, and isopropyl alcohol can cause headache, drowsiness, nausea and vomiting, and unconsciousness and can affect concentration and vision.

Dermal exposure
No data available

Skin corrosion/irritation
Formaldehyde is corrosive and contact can severely irritate and burn the skin. Prolonged or repeated exposure to ethyl alcohol can cause drying and cracking of the skin with peeling, redness and itching. Contact with glacial acetic acid can severely irritate and burn the skin.

Serious eye damage/irritation

Formaldehyde: 10 to 20 ppm produces almost immediate eye irritation. Most subjects experience irritation of the eyes, nose, and throat at 1 to 3 ppm; many subjects cannot tolerate prolonged exposures to 4 to 5 ppm. Contact with ethyl alcohol and glacial acetic acid can irritate the eyes.

Respiratory or skin sensitization
Formaldehyde: It has been estimated that exposure for 5 to 10 minutes to 50 to 100 ppm might cause serious injury to the lower respiratory passages. Formaldehyde may cause a skin allergy and an asthma-like allergy. Formaldehyde may cause an asthma-like allergy. Future exposure can cause asthma attacks with shortness of breath, wheezing, coughing, and/or chest tightness. Repeated exposures to high concentrations of glacial acetic acid may produce respiratory tract irritation with pharyngeal edema and chronic bronchitis.

Germ Cell mutagenicity
No data available

Reproductive toxicity

There is limited evidence that formaldehyde may damage the developing fetus and affect female fertility. Repeated oral exposure to ethyl alcohol may cause spontaneous abortions, as well as birth defects and other developmental problems. This condition is referred to as “fetal alcohol syndrome." There is limited evidence that oral exposure to ethyl alcohol may decrease fertility in males.

Specific target organ toxicity - single exposure
Exposure to ethyl alcohol may affect the liver and the nervous system.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Acute toxicity
Formaldehyde:
LD50 rat oral 100 mg/kg
LD50 rat dermal 270 mg/kg
LC50 rat inhalation 0.48 mg/l/4 hours
Ethyl Alcohol:
LD50 rat oral 3450 mg/kg
LD50 mouse oral 7060 mg/kg
LC50 rat inhalation 20000 ppm/10H
LC50 mouse inhalation 20363 ppm/4H
Glacial Acetic Acid:
LD50 rat oral 3310 mg/kg
LD50 rabbit skin 1060uL/kg
LD50 mouse intravenous 525mg/kg
LC50 mouse inhalation 5620ppm/1H

Carcinogencity
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)

UN-Number	1170
Proper shipping name	
Hazard class	3
Packing group	III
Environmental hazards	No data available

15. REGULATORY INFORMATION

15.1 No data available

16. OTHER INFORMATION

Preparation Information
Newcomer Supply Inc.
800-383-7799
www.newcomersupply.com