



SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 01/29/2018

Revision Date 01/29/2018

1 Identification of the Substance/Mixture and Company

Product Name: Carnoy's Fluid

SDS Code: SSFXCAR

Product Description: Tissue Fixative

Manufacturer/Supplier:

American MasterTech
1330 Thurman Street
Lodi, CA 95240
USA
(800) 860-4073

European Authorized Representative:

Emergo Europe
Prinsessegracht 20
2514 AP The Hague,
The Netherlands

Emergency Telephone Number: Infotrac (800) 535-5053 (24 hours) - International (011) 352-323-3500

2 Hazards Identification

Classification of the substance or mixture



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS06 Skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 Health hazard

Carc. 1A H350 May cause cancer.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Label elements

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

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Product Name: Carnoy's Fluid

Hazard pictograms

GHS02 GHS06 GHS07 GHS08

Signal word Danger**Hazard-determining components of labeling:**

trichloromethane

ethanol

Hazard statements

Highly flammable liquid and vapor.

Toxic in contact with skin or if inhaled.

Causes skin irritation.

Causes serious eye irritation.

May cause cancer.

Suspected of damaging fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

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.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a poison center/doctor if you feel unwell.

Get medical advice/attention if you feel unwell.

Specific treatment (see on this label).

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off immediately all contaminated clothing and wash it before reuse.

In case of fire: Use for extinction: CO₂, powder or water spray.

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

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

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Product Name: Carnoy's Fluid**Classification system:****NFPA ratings (scale 0 - 4)**

Health = 2

Fire = 3

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = *2

Fire = 3

Reactivity = 0

Other hazards**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

3 Composition

Chemical characterization: Mixtures**Description:** Mixture of the substances listed below with nonhazardous additions.**Dangerous components:**

64-17-5	ethanol	50-100%
67-66-3	trichloromethane	25-50%
64-19-7	acetic acid	<20%
67-63-0	propan-2-ol	2.5-10%

4 First Aid Measures

Description of first aid measures**General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Remove breathing apparatus only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation:

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.**After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.**After swallowing:** If symptoms persist consult doctor.**Information for doctor:****Most important symptoms and effects, both acute and delayed:** No further relevant information available.**Indication of any immediate medical attention and special treatment needed:**

No further relevant information available.

5 Firefighting Measures

Extinguishing media**Suitable extinguishing agents:**CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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Special hazards arising from the substance or mixture: No further relevant information available.

Advice for firefighters
Protective equipment: Mouth respiratory protective device.

6 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Keep unprotected persons away.

Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

Protective Action Criteria for Chemicals
PAC-1:

64-17-5	ethanol	1,800 ppm
67-66-3	trichloromethane	2 ppm
64-19-7	acetic acid	5 ppm
67-63-0	propan-2-ol	400 ppm

PAC-2:

64-17-5	ethanol	3300* ppm
67-66-3	trichloromethane	64 ppm
64-19-7	acetic acid	35 ppm
67-63-0	propan-2-ol	2000* ppm

PAC-3:

64-17-5	ethanol	15000* ppm
67-66-3	trichloromethane	3,200 ppm
64-19-7	acetic acid	250 ppm
67-63-0	propan-2-ol	12000** ppm

7 Handling and Storage

Handling:
Precautions for safe handling:

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

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Product Name: Carnoy's Fluid
Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles: Store in a cool location.

Information about storage in one common storage facility: Not required.

Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Specific end use(s): No further relevant information available.

8 Exposure Controls/Personal Protection

Additional information about design of technical systems: No further data; see item 7.

Control parameters
Components with limit values that require monitoring at the workplace:
64-17-5 ethanol

 PEL Long-term value: 1900 mg/m³, 1000 ppm

 REL Long-term value: 1900 mg/m³, 1000 ppm

 TLV Short-term value: 1880 mg/m³, 1000 ppm

67-66-3 trichloromethane

 PEL Ceiling limit value: 240 mg/m³, 50 ppm

 REL Short-term value: 9.78* mg/m³, 2* ppm
 *60-min; See Pocket Guide App. A

 TLV Long-term value: 49 mg/m³, 10 ppm

64-19-7 acetic acid

 PEL Long-term value: 25 mg/m³, 10 ppm

 REL Short-term value: 37 mg/m³, 15 ppm
 Long-term value: 25 mg/m³, 10 ppm

 TLV Short-term value: 37 mg/m³, 15 ppm
 Long-term value: 25 mg/m³, 10 ppm

67-63-0 propan-2-ol

 PEL Long-term value: 980 mg/m³, 400 ppm

 REL Short-term value: 1225 mg/m³, 500 ppm
 Long-term value: 980 mg/m³, 400 ppm

 TLV Short-term value: 984 mg/m³, 400 ppm
 Long-term value: 492 mg/m³, 200 ppm
 BEI

Ingredients with biological limit values:
67-63-0 propan-2-ol

BEI 40 mg/L

Medium: urine

Time: end of shift at end of workweek

Parameter: Acetone (background, nonspecific)

Additional information: The lists that were valid during the creation were used as basis.

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Exposure controls:**Personal protective equipment:****General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves:

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material:

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Tightly sealed goggles

9 Physical and Chemical Properties

Information on basic physical and chemical properties**General Information****Appearance**

Form:	Liquid
Color:	Colorless
Odor:	Pungent, makes eyes water
Odor threshold:	Not determined.

pH-value:	Not determined.
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Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	62 °C (143.6 °F)

Flash point:	13 °C (55.4 °F)
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Flammability (solid, gaseous):	Not applicable.
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Ignition temperature:	425 °C (797 °F)
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Decomposition temperature:	Not determined.
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Auto igniting:	Product is not selfigniting.
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Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
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Product Name: Carnoy's Fluid

Explosion limits:	
Lower:	3.5 Vol %
Upper:	17 Vol %
Vapor pressure at 20 °C (68 °F):	210 hPa (157.5 mm Hg)
Density:	Not determined.
Relative density:	Not determined.
Vapour density:	Not determined.
Evaporation rate:	Not determined.
Solubility in / Miscibility with Water:	Fully miscible.
Partition coefficient (n-octanol/water):	Not determined.
Dynamic:	Not determined.
Kinematic:	Not determined.
Other information:	No further relevant information available.

10 Stability and Reactivity

Reactivity: No further relevant information available.

Chemical stability:
Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Possibility of hazardous reactions: No dangerous reactions known.

Conditions to avoid: No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicology Information

Information on toxicological effects
Acute toxicity:
LD/LC50 values that are relevant for classification:
67-66-3 trichloromethane

Oral	LD50	908 mg/kg (rat)
Dermal	LD50	75 mg/kg (rat)

Primary irritant effect:
On the skin: Irritant to skin and mucous membranes.

On the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Toxic

Irritant

Carcinogenic categories
IARC (International Agency for Research on Cancer)

64-17-5	ethanol	1
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67-66-3	trichloromethane	2B
67-63-0	propan-2-ol	3
NTP (National Toxicology Program)		
67-66-3	trichloromethane	R
OSHA-Ca (Occupational Safety & Health Administration)		
None of the ingredients are listed.		

12 Ecological Information

Toxicity:
Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Behavior in environmental systems:
Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Additional ecological information:
General notes:

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Results of PBT and vPvB assessment
PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No further relevant information available.

13 Disposal Considerations

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport Information

UN-Number	
DOT, ADR, IMDG, IATA	UN1993
UN proper shipping name	
DOT	Flammable liquids, n.o.s.
ADR	1993 Flammable liquids, n.o.s.
IMDG, IATA	FLAMMABLE LIQUID, N.O.S.

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Transport hazard class(es)	
DOT	
	
Class	3 Flammable liquids
ADR	
	
Class	3 Flammable liquids
IMDG, IATA	
	
Class	3 Flammable liquids
Label	3
Packing group	
DOT, ADR, IMDG, IATA	II
Environmental hazards	Not applicable.
Special precautions for user:	Warning: Flammable liquids
EMS Number:	F-E, <u>S</u> -E
Stowage Category	B
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	Not applicable.
Transport/Additional information:	
ADR	
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
UN "Model Regulation":	UN 1993 FLAMMABLE LIQUIDS, N.O.S., 3, II

15 Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture
SARA

Section 355 (extremely hazardous substances):

67-66-3	trichloromethane
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Product Name: Carnoy's Fluid**Section 313 (Specific toxic chemical listings):**

67-66-3 trichloromethane

67-63-0 propan-2-ol

TSCA (Toxic Substances Control Act):

All ingredients are listed.

Proposition 65**Chemicals known to cause cancer:**

67-66-3 trichloromethane

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

64-17-5 ethanol

67-66-3 trichloromethane

Carcinogenic categories**EPA (Environmental Protection Agency)**

67-66-3 trichloromethane

B2, L, NL

TLV (Threshold Limit Value established by ACGIH)

64-17-5 ethanol

A3

67-66-3 trichloromethane

A3

67-63-0 propan-2-ol

A4

NIOSH-Ca (National Institute for Occupational Safety and Health)

67-66-3 trichloromethane

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).**Hazard pictograms**

GHS02



GHS06



GHS07



GHS08

Signal word Danger**Hazard-determining components of labeling:**

trichloromethane

ethanol

Hazard statements

Highly flammable liquid and vapor.

Toxic in contact with skin or if inhaled.

Causes skin irritation.

Causes serious eye irritation.

May cause cancer.

Suspected of damaging fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure.

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Product Name: Carnoy's Fluid

Precautionary statements

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.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a poison center/doctor if you feel unwell.

Get medical advice/attention if you feel unwell.

Specific treatment (see on this label).

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off immediately all contaminated clothing and wash it before reuse.

In case of fire: Use for extinction: CO₂, powder or water spray.

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

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations:**Additional classification according to Decree on Hazardous Materials:**

Carcinogenic hazardous material group III (dangerous).

Information about limitation of use:

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other Information

This information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of the material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

Department issuing SDS: Regulatory Department

Contact: Phone (800) 860-4073

Date of preparation / last revision 01/29/2018 / -

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Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 3: Acute toxicity – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Carc. 1A: Carcinogenicity – Category 1A

Repr. 2: Reproductive toxicity – Category 2

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

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