Printing date 10/20/2022 Reviewed on 10/20/2022

### 1 Identification

· Product identifier

Trade name: ACID ALCOHOL, 1%

· Article number: 26102-03, 26312-04

· Application of the substance / the mixture Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Electron Microscopy Sciences

1560 Industry Road USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: info@emsdiasum.com www.emsdiasum.com

· Information department: Product safety department

· Emergency telephone number:

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

## 2 Hazard(s) identification

· Classification of the substance or mixture



GHS02 Flame

Flammable Liquids 2

H225 Highly flammable liquid and vapor.

Substances and mixtures which, in contact with water, emit flammable gases 1

H260 In contact with water releases flammable gases, which may ignite spontaneously.



GHS08 Health hazard

Carcinogenicity 1A

H350 May cause cancer.

Specific Target Organ Toxicity - Single Exposure 2

H371 May cause damage to the central nervous system and the visual organs.



GHS05 Corrosion

Skin Corrosion 1B

H314 Causes severe skin burns and eye damage.

H318 Causes serious eve damage.

- Eye Damage 1

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







GHS02

GHS05

GHS08

· Signal word Danger

(Contd. on page 2)

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Trade name: ACID ALCOHOL, 1%

(Contd. of page 1)

#### Hazard-determining components of labeling:

Ethyl alcohol

hydrogen chloride

propan-2-ol

Methyl Alcohol

#### · Hazard statements

Highly flammable liquid and vapor.

*In contact with water releases flammable gases, which may ignite spontaneously.* 

Causes severe skin burns and eye damage.

May cause cancer.

May cause damage to the central nervous system and the visual organs.

#### · 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.

Do not allow contact with water.

Handle under inert gas. Protect from moisture.

Keep container tightly closed.

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 dusts or mists.

Wash thoroughly after handling.

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

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

*If swallowed: Rinse mouth. Do NOT induce vomiting.* 

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.

Immediately call a poison center/doctor.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.

Wash contaminated clothing before reuse.

In case of fire: Use CO2, sand, extinguishing powder to extinguish.

Store in a dry place. Store in a closed container.

Store in a well-ventilated place. Keep cool.

Store locked up.

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

#### · Classification system:

#### · NFPA ratings (scale 0 - 4)



The substance demonstrates unusual reactivity with water.

(Contd. on page 3)

(Contd. of page 2)

## Safety Data Sheet acc. to OSHA HCS

Printing date 10/20/2022 Reviewed on 10/20/2022

Trade name: ACID ALCOHOL, 1%

· HMIS-ratings (scale 0 - 4)

FIRE 3 Health = \*3FIRE 3 Fire = 3REACTIVITY 2 Reactivity = 2

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

### 3 Composition/information on ingredients

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

· Dangerous components:		
64-17-5	Ethyl alcohol	>50-≤100%
67-63-0	propan-2-ol	>2.5-≤10%
67-56-1	Methyl Alcohol	>2.5-≤10%
7647-01-0	hydrogen chloride	≤2.5%

#### 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.

· After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. 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. Then consult a doctor.
- · After swallowing: Drink copious amounts of water and provide fresh air. Immediately call a 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 Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- For safety reasons unsuitable extinguishing agents: Water
- Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters
- · Protective equipment: Mouth respiratory protective device.

US

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Trade name: ACID ALCOHOL, 1%

(Contd. of page 3)

### 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).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· 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	Ethyl alcohol	1,800 ppn
67-63-0	propan-2-ol	400 ppm
67-56-1	Methyl Alcohol	530 ppm
7647-01-0	hydrogen chloride	I.8 ppm
· PAC-2:		
64-17-5	Ethyl alcohol	3300* ppn
67-63-0	propan-2-ol	2000* ppn
67-56-1	Methyl Alcohol	2,100 ppm
7647-01-0	hydrogen chloride	22 ppm
· PAC-3:		
64-17-5	Ethyl alcohol	15000* ppm
67-63-0	propan-2-ol	12000** ppn
67-56-1	Methyl Alcohol	7200* ppm
7647-01-0	hydrogen chloride	100 ppm

## 7 Handling and storage

- · Handling:
- · Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect from heat.

Protect against electrostatic charges.

- · 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.

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Trade name: ACID ALCOHOL, 1%

(Contd. of page 4)

· Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

· 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 tha	t require m	onitoring at	the workplace:

#### 64-17-5 Ethyl alcohol

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

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

TLV Short-term value: 1000 ppm

A3

#### 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: 400 ppm Long-term value: 200 ppm

BEI, A4

## 67-56-1 Methyl Alcohol

PEL Long-term value: 260 mg/m<sup>3</sup>, 200 ppm

REL Short-term value: 325 mg/m³, 250 ppm Long-term value: 260 mg/m³, 200 ppm

Skin

TLV Short-term value: 250 ppm Long-term value: 200 ppm

Long-term vatue. 200 ppr Skin; BEI

5.000, 5.51

## 7647-01-0 hydrogen chloride

PEL Ceiling limit value: 7 mg/m³, 5 ppm

REL | Ceiling limit value: 7 mg/m³, 5 ppm

TLV Ceiling limit value: 2 ppm

A4

#### · 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)

### 67-56-1 Methyl Alcohol

#### BEI 15 mg/L

Medium: urine Time: end of shift

Parameter: Methanol (background, nonspecific)

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Trade name: ACID ALCOHOL, 1%

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

Avoid contact with the eyes.

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.

· Eve protection:



Tightly sealed goggles

## 9 Physical and chemical properties

- · Information on basic physical and chemical properties
- · General Information
- · Appearance:

Form: Liquid
Color: Clear
Odor: Alcohol-like
Odor threshold: Not determined.

• pH-value at 20 °C (68 °F): 1.19-1.39

· Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 78 °C (172.4 °F)

• Flash point: 13 °C (55.4 °F)

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Trade name: ACID ALCOHOL, 1%

	(Contd. of page
Flammability (solid, gaseous):	Highly flammable. Contact with water liberates extremely flammable gases.
Ignition temperature:	425 °C (797 °F)
Decomposition temperature:	Not determined.
Auto igniting:	Spontaneously flammable in air.
Danger of explosion:	Product is not explosive. However, formation of explosive air/vapo mixtures are possible.
Explosion limits:	
Lower:	3.5 Vol %
Upper:	15 Vol %
Vapor pressure at 20 °C (68 °F):	59 hPa (44.3 mm Hg)
Density at 20 °C (68 °F):	0.85562 g/cm³ (7.14015 lbs/gal)
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/wate	er): Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Organic solvents:	68.0 %
Water:	31.0 %
VOC content:	68.00 %
	791.9 g/l / 6.61 lb/gal
Solids content:	0.0 %
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 Contact with water releases flammable gases.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

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Trade name: ACID ALCOHOL, 1%

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### 11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

LD/LC50 values that are relevant for classification:		
67-56-1	Methy	l Alcohol
Oral	LD50	5,628 mg/kg (rat)
Dermal	<i>LD50</i>	15,800 mg/kg (rabbit)

- · Primary irritant effect:
- on the skin: Strong caustic effect on skin and mucous membranes.
- on the eye:

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

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

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· Carcinogenic categories

8	
· IARC (International Agency for Research on Cancer)	
64-17-5 Ethyl alcohol	1
67-63-0 propan-2-ol	3
7647-01-0 hydrogen chloride	3
· NTP (National Toxicology Program)	
None of the ingredients is listed.	
· OSHA-Ca (Occupational Safety Health Administration)	
None of the ingredients is 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 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

- · Results of PBT and vPvB assessment
- · PBT: Not applicable.

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Trade name: ACID ALCOHOL, 1%

· vPvB: Not applicable.

(Contd. of page 8)

· Other adverse effects No further relevant information available.

## 13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

Transport information	
UN-Number DOT, ADR, IMDG, IATA	UN1987
UN proper shipping name	
DOT	Alcohols, n.o.s. (Ethanol, Isopropanol)
ADR	1987 ALCOHOLS, N.O.S. (ETHANOL (ETHYL ALCOHO ISOPROPANOL (ISOPROPYL ALCOHOL))
IMDG	ALCOHOLS, N.O.S. (ETHANOL (ETHYL ALCOHOL ISOPROPANOL (ISOPROPYL ALCOHOL))
IATA	ALCOHOLS, N.Ò.S. (ETHANOL, ISOPRÓPANOL (ISOPROF ALCOHOL))
Transport hazard class(es)	
DOT	
Class	3 Flammable liquids
Label	3
ADR, 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
Hazard identification number (Kem	ler code): 33
EMS Number:	F- $E$ , $S$ - $D$

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Trade name: ACID ALCOHOL, 1%

	(Contd. of page
Stowage Category	В
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT	
Quantity limitations	On passenger aircraft/rail: 5 L
2 .	On cargo aircraft only: 60 L
ADR	
Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
IMDG	
Limited quantities (LQ)	IL
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 1987 ALCOHOLS, N.O.S. (ETHANOL (ETHYL ALCOHOL
S	ISOPROPANOL (ISOPROPYL ALCOHOL)), 3, II

## 15 Regulatory information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture No further relevant information available.
- · Sara
- Section 355 (extremely hazardous substances):

7647-01-0 hydrogen chloride

· Section 313 (Specific toxic chemical listings):

67-63-0 propan-2-ol

67-56-1 Methyl Alcohol

7647-01-0 hydrogen chloride

· TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

· Hazardous Air Pollutants

67-56-1 Methyl Alcohol

7647-01-0 hydrogen chloride

- Proposition 65
- · Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

64-17-5 Ethyl alcohol

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Trade name: ACID ALCOHOL, 1%

| Contd. of page 10|
| 67-56-1 | Methyl Alcohol |
| Carcinogenic categories |
| EPA (Environmental Protection Agency) |
| None of the ingredients is listed. |
| TLV (Threshold Limit Value) |
64-17-5	Ethyl alcohol	A3
67-63-0	propan-2-ol	A4
7647-01-0	hydrogen chloride	A4
NIOSH-Ca (National Institute for Occupational Safety and Health)		
None of the ingredients is listed.		

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







GHS02 GHS05

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

Ethyl alcohol

hydrogen chloride

propan-2-ol

Methyl Alcohol

#### · Hazard statements

Highly flammable liquid and vapor.

In contact with water releases flammable gases, which may ignite spontaneously.

Causes severe skin burns and eye damage.

May cause cancer.

May cause damage to the central nervous system and the visual organs.

#### · 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.

Do not allow contact with water.

Handle under inert gas. Protect from moisture.

Keep container tightly closed.

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 dusts or mists.

Wash thoroughly after handling.

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

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

If swallowed: Rinse mouth. Do NOT induce vomiting.

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.

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## Safety Data Sheet acc. to OSHA HCS

Printing date 10/20/2022 Reviewed on 10/20/2022

Trade name: ACID ALCOHOL, 1%

Immediately call a poison center/doctor.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.

Wash contaminated clothing before reuse.

In case of fire: Use CO2, sand, extinguishing powder to extinguish.

Store in a dry place. Store in a closed container.

Store in a well-ventilated place. Keep cool.

Store locked up.

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

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

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Contact:
- · Date of preparation / last revision 10/20/2022 / -
- · Abbreviations and acronyms:

ADR: Accord relatif au transport international 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

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)

VOC: Volatile Organic Compounds (USA, EU)

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

Flammable Liquids 2: Flammable liquids - Category 2

Substances and mixtures which, in contact with water, emit flammable gases 1: Substances and mixtures which in contact with water emit flammable gases – Category 1

Skin Corrosion 1B: Skin corrosion/irritation - Category 1B

Eye Damage 1: Serious eye damage/eye irritation - Category 1

Carcinogenicity 1A: Carcinogenicity – Category 1A

Specific Target Organ Toxicity - Single Exposure 2: Specific target organ toxicity (single exposure) - Category 2

US