

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	:	Acetic Acid Glacial
CAS-No.	:	64-19-7
REACH No.	:	01-2119475328-30-XXXX
Index-No.	:	CH-L8-A003

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company	VALERIAN LABS HOLDING CORP
Address	1130-1971 BROADWAY STREETPORT COQUITLAM, BC V3C 0C9 CANADA
Telephone	+1 (604)-710-0869
E-mail:	info@valerianlabs.com

1.4 Emergency telephone Number:	1-888-226-8832 CANUTEC (CANADA) 1-800-424-9300 CHEMTREC (USA)
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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

In accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

Flammable liquids (Category 3), H226

Skin corrosion (Sub-category 1A), H314

Serious eye damage (Category 1), H318

2.2 Label elements

Labelling In accordance with GHS Standards





Safety Data Sheet

Version: 1.2

Revision date SEPT-01-2023

Retrieve on: SEPT-10-2023

Pictogram



Signal Word

Danger

Hazard statement(s)

H226

Flammable liquid and vapor.

H314

Causes severe skin burns and eye damage.

Precautionary statement(s)

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233

Keep container tightly closed.

P240

Ground and bond container and receiving equipment.

P280

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

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with 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.

Supplemental Hazard Statements

none

Reduced Labeling (<= 125 ml)

Pictogram



Signal Word

Danger

Hazard statement(s)

H314

Causes severe skin burns and eye damage.

Precautionary statement(s)

P280

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

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with 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.

Supplemental Hazard Statements

none

2.3 Other hazards

Chemical Composition: This substance or mixture does not include any components that meet the criteria for classification as either persistent, bioaccumulative, and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at concentrations of 0.1% or higher.

Ecological Information: The substance or mixture does not contain any components known to possess endocrine-disrupting properties as defined by REACH Article 57(f), Commission Delegated Regulation (EU) 2017/2100, or Commission Regulation (EU) 2018/605, at concentrations of 0.1% or higher.





Toxicological Information: Similarly, the substance or mixture does not contain components recognized for having endocrine-disrupting properties under REACH Article 57(f), Commission Delegated Regulation (EU) 2017/2100, or Commission Regulation (EU) 2018/605, at concentrations of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : Glacial acetic acid

Formula : C₂H₄O₂
Molecular weight : 60,05 g/mol
CAS-No. : 64-19-7
EC-No. : 200-580-7
Index-No. : CH-L8-A003

Component	Classification	Concentration
acetic acid		
CAS-No. 64-19-7 EC-No. 200-580-7 Index-No. CH-L8-A003	Flam. Liq. 3; Skin Corr. 1A; Eye Dam. 1; H226, H314, H318 Concentration limits: >= 90 %: Skin Corr. 1A, H314; 25 - < 90 %: Skin Corr. 1B, H314; 10 - < 25 %: Skin Irrit. 2, H315; 10 - < 25 %: Eye Irrit. 2, H319;	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.



**If swallowed**

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Water Foam Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Combustible.

Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air at elevated temperatures.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralizing material.

Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.





SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Moisture sensitive.

Storage class

Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Workers	Inhalation	Acute local effects	25 mg/m ³
Workers	Inhalation	Long-term local effects	25 mg/m ³
Workers	Skin contact	Long-term local effects	10mg/kg BW/d
Consumers	Inhalation	Acute local effects	25 mg/m ³
Consumers	Inhalation	Long-term local effects	25 mg/m ³

Predicted No Effect Concentration (PNEC)

Compartment	Value
Soil	0,478 mg/kg
Sea water	0,3058 mg/l
Fresh water	3,058 mg/l
Sea sediment	1,136 mg/kg
Fresh water sediment	11,36 mg/kg
Sewage treatment plant	85 mg/l
Aquatic intermittent release	30,58 mg/l





8.2 Exposure controls

Personal protective equipment

Eye/Face Protection:

When working with this product, utilize eye protection equipment that has been tested and approved in accordance with relevant government standards, such as NIOSH (US) or EN 166 (EU). Wear tightly fitting safety goggles.

Skin Protection:

This recommendation pertains specifically to the product identified in the safety data sheet, as supplied by us and for its intended use. In cases where the product is dissolved, mixed with other substances, or used under conditions different from those specified in EN 16523-1, it is essential to wear flame-retardant and antistatic protective clothing.

Body Protection:

Wear flame-retardant and antistatic protective clothing for body protection.

Respiratory Protection:

Recommended Filter Type: Filter E-(P2). It is the responsibility of the entrepreneur to ensure that maintenance, cleaning, and testing of respiratory protective devices are carried out in accordance with the manufacturer's instructions. Proper documentation of these measures is necessary.

Control of Environmental Exposure:

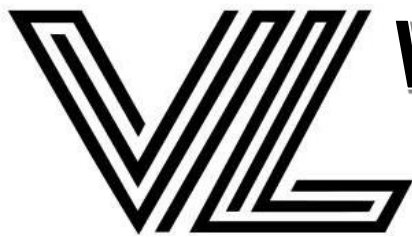
To prevent environmental contamination and mitigate the risk of explosion, do not allow the product to enter drains. Take appropriate precautions.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|-------------------|-----------|
| a) Physical state | liquid |
| b) Color | colorless |
| c) Odor | stinging |





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- | | |
|---|---|
| d) Melting point/freezing point | Melting point/range: 16,2 °C - lit. |
| e) Initial boiling point and boiling range | 117 - 118 °C - lit. |
| f) Flammability (solid, gas) | No data available |
| g) Upper/lower flammability or explosive limits | Upper explosion limit: 19,9 %(V)
Lower explosion limit: 4 %(V) |
| h) Flash point | 39 °C - closed cup |
| i) Autoignition temperature | 463 °C |
| j) Decomposition temperature | Distillable in an undecomposed state at normal pressure. |
| k) pH | 2,5 at 50 g/l at 20 °C |
| l) Viscosity | Viscosity, kinematic: 1,17 mm ² /s at 20 °C
Viscosity, dynamic: 1,05 mPa.s at 25 °C |
| m) Water solubility | 602,9 g/l at 25 °C at 1.013 hPa - completely soluble |
| n) Partition coefficient: n-octanol/water | log Pow: -0,17 at 25 °C - Bioaccumulation is not expected., (ECHA) |
| o) Vapor pressure | 20,79 hPa at 25 °C |
| p) Density | 1,049 g/cm ³ at 25 °C - lit. |
| Relative density | No data available |
| q) Relative vapor density | No data available |
| r) Particle characteristics | No data available |
| s) Explosive properties | No data available |
| t) Oxidizing properties | none |

9.2 Other safety information

Surface tension 28,8 mN/m at 10,0 °C

Relative vapor density 2,07





SECTION 10: Stability and reactivity

10.1 Reactivity

Vapor/air-mixtures are explosive at intense warming.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Risk of explosion with:

peroxi compounds
perchloric acid
fuming sulfuric acid
phosphorus halides
hydrogen peroxide
chromium(VI) oxide
potassium permanganate
Peroxides

Strong oxidizing agents

Risk of ignition or formation of inflammable gases or vapours with:

Iron
Zinc

magnesium

Mild steel

Possible formation of:

Hydrogen

Violent reactions possible with:

strong alkalis
Aldehydes
alkali hydroxides
nonmetallic halides
ethanolamine
Acetaldehyde
Alcohols
halogen-halogen compounds
chlorosulfonic acid
chromosulfuric acid
Potassium hydroxide
Nitric acid

10.4 Conditions to avoid

Heating.

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5





SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 3.310 mg/kg

Remarks: (RTECS)

LC50 Inhalation - Mouse - 4 h - 2.819 mg/l - vapor

Remarks: (RTECS)

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Causes burns. - 4 h

(OECD Test Guideline 404)

Remarks: Classified according to Regulation (EU) 1272/2015, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes burns. - 4 h

(OECD Test Guideline 405)

Remarks: (IUCLID)

Remarks: Causes serious eye damage.

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: Micronucleus test

Species: Rat

Cell type: Bone marrow

Application Route: inhalation (vapor)

Method: Mutagenicity (micronucleus test)

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available



**Specific target organ toxicity - repeated exposure**

No data available

Aspiration hazard

No data available

11.2 Additional Information**Endocrine disrupting properties****Product:**

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Ingestion or inhalation of concentrated acetic acid causes damage to tissues of the respiratory and digestive tracts. Symptoms include: hematemesis, bloody diarrhea, edema and/or perforation of the esophagus and pylorus, pancreatitis, hematuria, anuria, uremia, albuminuria, hemolysis, convulsions, bronchitis, pulmonary edema, pneumonia, cardiovascular collapse, shock, and death. Direct contact or exposure to high concentrations of vapor with skin or eyes can cause: erythema, blisters, tissue destruction with slow healing, skin blackening, hyperkeratosis, fissures, corneal erosion, opacification, iritis, conjunctivitis, and possible blindness.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information**12.1 Toxicity**

Toxicity to fish	semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 1.000 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 1.000 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test EC50 - Skeletonema costatum - > 1.000 mg/l - 72 h (ISO 10253)
Toxicity to bacteria	EC5 - Pseudomonas putida - 2.850 mg/l - 16 h Remarks: neutral (maximum permissible toxic concentration) (Lit.)





microtox test EC50 - Photobacterium phosphoreum - 11 mg/l - 15 min

Remarks: (IUCLID)

12.2 Persistence and degradability

Biodegradability Result: 99 % - Readily biodegradable.
(OECD Test Guideline 301D)
Remarks: (HSDB)

Result: 95 % - Readily eliminated from water
(OECD Test Guideline 302B)

Biochemical Oxygen Demand (BOD) 880 mg/g
Remarks: (Lit.)

Ratio BOD/ThBOD 76 %
Remarks: (IUCLID)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information

14.1 UN number

ADR/RID: 2789

IMDG: 2789

IATA: 2789

14.2 UN proper shipping name

ADR/RID: ACETIC ACID, GLACIAL





IMDG: ACETIC ACID, GLACIAL

IATA: Acetic acid, glacial

14.3 Transport hazard class(es)

ADR/RID: 8 (3)

IMDG: 8 (3)

IATA: 8 (3)

14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

Tunnel restriction code : (D/E)

Further information : No data available

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

P5c FLAMMABLE LIQUIDS

P5c FLAMMABLE LIQUIDS

Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information**Full text of other abbreviations**

These are abbreviations and acronyms commonly used in the field of chemical safety, regulation, and transportation:

1. ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
2. ADR - Agreement concerning the International Carriage of Dangerous Goods by Road
3. AIIC - Australian Inventory of Industrial Chemicals
4. ASTM - American Society for the Testing of Materials
5. bw - Body weight
6. CMR - Carcinogen, Mutagen, or Reproductive Toxicant
7. DIN - Standard of the German Institute for Standardization
8. DSL - Domestic Substances List (Canada)
9. ECx - Concentration associated with x% response
10. ELx - Loading rate associated with x% response

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11. EmS - Emergency Schedule
12. ENCS - Existing and New Chemical Substances (Japan)
13. ErCx - Concentration associated with x% growth rate response
14. GHS - Globally Harmonized System
15. GLP - Good Laboratory Practice
16. IARC - International Agency for Research on Cancer
17. IATA - International Air Transport Association
18. IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
19. IC50 - Half maximal inhibitory concentration
20. ICAO - International Civil Aviation Organization
21. IECSC - Inventory of Existing Chemical Substances in China
22. IMDG - International Maritime Dangerous Goods
23. IMO - International Maritime Organization
24. ISHL - Industrial Safety and Health Law (Japan)
25. ISO - International Organization for Standardization
26. KECI - Korea Existing Chemicals Inventory
27. LC50 - Lethal Concentration to 50% of a test population
28. LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
29. MARPOL - International Convention for the Prevention of Pollution from Ships
30. n.o.s. - Not Otherwise Specified
31. NO(A)EC - No Observed (Adverse) Effect Concentration
32. NO(A)EL - No Observed (Adverse) Effect Level
33. NOELR - No Observable Effect Loading Rate
34. NZIoC - New Zealand Inventory of Chemicals
35. OECD - Organization for Economic Co-operation and Development
36. OPPTS - Office of Chemical Safety and Pollution Prevention
37. PBT - Persistent, Bio accumulative, and Toxic substance
38. PICCS - Philippines Inventory of Chemicals and Chemical Substances
39. (Q)SAR - (Quantitative) Structure Activity Relationship
40. REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization, and Restriction of Chemicals
41. RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
42. SADT - Self-Accelerating Decomposition Temperature
43. SDS - Safety Data Sheet
44. TCSI - Taiwan Chemical Substance Inventory
45. TECI - Thailand Existing Chemicals Inventory
46. TSCA - Toxic Substances Control Act (United States)
47. UN - United Nations
48. UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods
49. vPvB - Very Persistent and Very Bio accumulative

These abbreviations are essential in understanding and complying with regulations and safety standards related to the handling, transportation, and assessment of chemical substances.

Additional information

The provided information is considered accurate but is not intended to cover every aspect and should be regarded as a general reference. The content in this document is derived from our current understanding and is relevant to the product concerning the necessary safety measures.

