

Material Safety Data Sheet

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1. Identification of the substance/preparation and of the company/undertaking

Product name: GLACIAL ACETIC ACID

Product code: 10098845

Supplier: EASTMAN KODAK COMPANY, 343 State Street, Rochester, New York 14650

For Emergency Health, Safety & Environmental Information, call (585) 722-5151 (USA)

For further information about this product, call (800) 242-2424.

Synonyms: PCD 10001

Product Use: photographic processing chemical, For industrial use only.

2. Hazards identification

CONTAINS: Acetic acid (64-19-7)

DANGER!

COMBUSTIBLE LIQUID AND VAPOR

POISON

MAY BE FATAL OR HARMFUL IF SWALLOWED

DUST, MIST OR VAPOUR EXTREMELY IRRITATING TO THE EYES AND RESPIRATORY TRACT

CAUSES SEVERE SKIN AND EYE BURNS

HMIS III Hazard Ratings: Health - 3, Flammability - 2, Reactivity (Stability) - 0

NFPA Hazard Ratings: Health - 3, Flammability - 2, Instability - 0

NOTE: HMIS III and NFPA 704 (2007) hazard indexes involve data review and interpretation that may vary among companies. They are intended only for rapid, general identification of the magnitude of the potential hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

3. Composition/information on ingredients

Weight %	Components - (CAS-No.)
100	Acetic acid (64-19-7)

4. First aid measures

Inhalation: If inhaled, remove to fresh air. Get medical attention.

Eyes: Immediately flush the contaminated eye(s) with water for at least 60 minutes, while holding the eyelid(s) open. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. Contact a physician or poison control center immediately. Continue flushing the eye(s) until the physician

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advises to stop. If necessary, continue flushing during transport to an emergency care facility. Immediately flush the contaminated eye(s) with water for at least 60 minutes, while holding the eyelid(s) open. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. Contact a physician or poison control center immediately. Continue flushing the eye(s) until the physician advises to stop. If necessary, continue flushing during transport to an emergency care facility.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control centre immediately. Wash contaminated clothing before re-use. Destroy or thoroughly clean contaminated shoes.

Ingestion: If swallowed, do NOT induce vomiting. Call a physician or poison control centre immediately. Never give anything by mouth to an unconscious person.

5. Fire-fighting measures

Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Use water spray to cool unopened containers.

Hazardous Combustion Products: Carbon oxides

Unusual Fire and Explosion Hazards: Combustible

6. Accidental release measures

Remove all sources of ignition. Absorb spill with inert material, then place in a chemical waste container. Clean surface thoroughly to remove residual contamination.

7. Handling and storage

Personal precautions: Do not breathe mist or vapour at concentrations greater than the exposure limits. Keep container tightly closed. Use only with adequate ventilation. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling.

Prevention of Fire and Explosion: Keep away from heat and sources of ignition. Use only with adequate ventilation. Keep from contact with oxidizing materials.

Storage: Keep container tightly closed. Keep away from incompatible substances (see Incompatibility section.)

8. Exposure controls/personal protection

Occupational exposure controls

Chemical Name	Regulatory List	Value Type	Value
Acetic acid	ACGIH	time weighted average	10 ppm

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OSHA	Short term exposure limit time weighted average	15 ppm 10 ppm 25 mg/m3
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Ventilation: Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Controls should be sufficient so that applicable occupational exposure limits are not exceeded.

Respiratory protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. Respirator type: full-face organic vapour cartridge. If respirators are used, a program should be instituted to assure compliance with applicable federal, state, commonwealth, provincial, or local laws and regulations.

Eye protection: If a full-face respirator is not worn, wear vapour-tight chemical goggle and a face shield.

Hand protection: Wear impervious gloves and protective clothing appropriate for the risk of exposure.

9. Physical and chemical properties

Physical form: solid

Colour: colourless

Odour: pungent, vinegar

Specific gravity: 1.05

Vapour pressure (at 20.0 °C (68.0 °F)) : 24 mbar (18.0 mm Hg)

Vapour density: 2.1

Volatile fraction by weight: 100 %

Boiling point/boiling range: 117.9 °C (244.2 °F)

Melting point/range: 16.64 °C (62.0 °F)

Water solubility: completely miscible

pH: 1.0

Partition coefficient: n-octanol/water log Pow = -0.31

Flash point: 39 °C (102.2 °F)

Autoignition temperature: 463.0 °C (865.4 °F)

10. Stability and reactivity

Stability: Stable under normal conditions.

Exotherm onset temperature: 115 °C by DTA

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Incompatibility: Metals, Bases, Strong oxidizing agents, Amines.

Hazardous decomposition products: Carbon oxides

Hazardous Polymerization: Hazardous polymerisation does not occur.

11. Toxicological information

Effects of Exposure

General advice: Acute overexposure to extremely high airborne concentrations of respiratory irritants has been associated with development of an asthma-like reactive airways syndrome (RADS) in susceptible individuals. Extremely high airborne concentrations are not generated during normal conditions of use but may occur following a spill. The potential to generate extremely high airborne concentrations in a spill situation depends upon physical factors such as the concentration of the solution, the volume of the spill, the surface area of the spill, the size of the room where the spill occurred, and the ventilation rate in the room.

Inhalation: Airborne dust/mist/vapor extremely irritating.

Eyes: Causes severe eye burns. Airborne dust/mist/vapor extremely irritating.

Skin: Causes severe skin burns.

Ingestion: May be fatal or harmful if swallowed. May cause burns of the gastrointestinal tract if swallowed.

Acute Toxicity Data:

- Oral LD50 (rat): 3,310 - 3,530 mg/kg
- Oral LD50 (rabbit): 1,200 mg/kg
- Inhalation LC50: 5620 ppm / 1.00 hr
- Inhalation LC50 (rat): > 16000 ppm / 4 hr
- Inhalation LC50 (rat): 4640 ppm / 4 hr
- Dermal LD50: 1,060 mg/kg
- Skin irritation: severe
- Eye irritation (washed eyes): severe
- Eye irritation (unwashed eyes): severe

12. Ecological information

The following properties are ESTIMATED from the components of the preparations.

Potential Toxicity:

Toxicity to fish (LC50):	10 - 100 mg/l
Toxicity to fish (LC50):	88 mg/l (Exposure time: 96 hr)
Toxicity to fish (LC50):	423 mg/l (Exposure time: 24 hr)

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Toxicity to fish (LC50):	75 mg/l (Exposure time: 96 hr)
Toxicity to daphnia (EC50):	10 - 100 mg/l
Toxicity to daphnia (EC50):	32 - 47 mg/l (Exposure time: 36 hr)
Toxicity to daphnia (EC50):	> 100 mg/l (Exposure time: 96 hr)
Toxicity to algae (IC50):	> 100 mg/l
Toxicity to other organisms (EC50):	> 100 mg/l
Toxicity to other organisms (EC50):	8.86 - 11 mg/l (Bacteria)

Persistence and degradability: Readily biodegradable.

Chemical Oxygen Demand (COD): 1 g/g

Biochemical Oxygen Demand (BOD): 0.7 g/g

13. Disposal considerations

Discharge, treatment, or disposal may be subject to federal, state, commonwealth, provincial, or local laws. Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

The information given below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions. Please consult the product packaging for further details.

IATA: UN-Number: UN2789
Proper shipping name: ACETIC ACID, GLACIAL
Class: 8
Sub-risks: 3
Packaging group: II

IMDG: UN-Number: UN2789
Proper shipping name: ACETIC ACID, GLACIAL
Class: 8
Sub-risks: 3
Packaging group: II

US DOT: UN-Number: UN2789
Proper shipping name: ACETIC ACID, GLACIAL
Class: 8
Sub-risks: 3
Packaging group: II

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For more transportation information, go to: www.kodak.com/go/ship.

15. Regulatory information

Notification status

Regulatory List	Notification status
TSCA	All listed
DSL	All listed
NDSL	None listed
EINECS	All listed
ELINCS	None listed
NLP	None listed
AICS	All listed
IECS	All listed
ENCS	All listed
ECI	All listed
NZIoC	All listed
PICCS	All listed

"Not all listed" indicates one or more component is either not on the public Inventory or is subject to exemption requirements. If additional information is needed contact Kodak.

Other regulations

American Conference of Governmental Industrial Hygienists (ACGIH):	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
International Agency for Research on Cancer (IARC):	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
U.S. National Toxicology Program (NTP):	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
U.S. Occupational Safety and Health Administration (OSHA):	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
California Prop. 65	This product does not contain any

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	chemicals known to State of California to cause cancer, birth, or any other reproductive defects.
U.S. - CERCLA/SARA (40 CFR § 302.4 Designation of hazardous substances):	Acetic acid
U.S. - CERCLA/SARA - Section 302 (40 CFR § 355 Appendices A and B - The List of Extremely Hazardous Substances and Their Threshold Planning Quantities):	No components of this product are subject to the SARA Section 302 (40 CFR 355) reporting requirements.
U.S. - CERCLA/SARA - Section 313 (40 CFR § 372.65 Toxic Chemical Release Reporting):	No components of this product are subject to the SARA Section 313 (40 CFR 372.65) reporting requirements.
U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances:	Acetic acid
U.S. - California - 8 CCR Section 5200-5220 - Specifically Regulated Carcinogens:	No components found on the California Specifically Regulated Carcinogens List.
U.S. - California - 8 CCR Section 5203 Carcinogens:	No components found on the California Section 5203 Carcinogens List.
U.S. - California - 8 CCR Section 5209 Carcinogens:	No components found on the California Section 5209 Carcinogens List.
U.S. - Massachusetts - General Law Chapter 111F (MGL c 111F) - Hazardous Substances Disclosure by Employers (a.k.a. Right to Know Law):	Acetic acid
U.S. - Minnesota Employee Right-to-Know (5206.0400, Subpart 5. List of Hazardous Substances):	Acetic acid
U.S. - New Jersey - Worker and Community Right to Know Act (N.J.S.A. 34:5A-1):	Acetic acid
U.S. - Pennsylvania - Part XIII. Worker and Community Right-to-Know Act (Chapters 301-323):	Acetic acid
U.S. - Rhode Island - Title 28 Labor and Labor Relations (Chapters 28-21 Hazardous Substance Right-to-Know Act):	Acetic acid

16. Other information

The data below reflects current legislative requirements whereas the product in your possession may carry a different version of the label depending on the date of manufacture.

US/Canadian Label Statements:

GLACIAL ACETIC ACID
CONTAINS: Acetic acid (64-19-7).

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DANGER! COMBUSTIBLE LIQUID AND VAPOR. POISON. MAY BE FATAL OR HARMFUL IF SWALLOWED. DUST, MIST OR VAPOUR EXTREMELY IRRITATING TO THE EYES AND RESPIRATORY TRACT. CAUSES SEVERE SKIN AND EYE BURNS.

Keep away from heat and sources of ignition. Keep container tightly closed. Use only with adequate ventilation. Do not breathe vapours or spray mist. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. **FIRST AID:** If inhaled, remove to fresh air. Get medical attention. Immediately flush the contaminated eye(s) with water for at least 60 minutes, while holding the eyelid(s) open. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. Contact a physician or poison control center immediately. Continue flushing the eye(s) until the physician advises to stop. If necessary, continue flushing during transport to an emergency care facility. Immediately flush the contaminated eye(s) with water for at least 60 minutes, while holding the eyelid(s) open. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. Contact a physician or poison control center immediately. Continue flushing the eye(s) until the physician advises to stop. If necessary, continue flushing during transport to an emergency care facility. In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control centre immediately. Wash contaminated clothing before re-use. Destroy or thoroughly clean contaminated shoes. If swallowed, do NOT induce vomiting. Call a physician or poison control centre immediately. Never give anything by mouth to an unconscious person. Keep out of reach of children. Do not handle or use until safety precautions in Material Safety Data Sheet (MSDS) have been read and understood. Since emptied containers retain product residue, follow label warnings even after container is emptied. **IN CASE OF FIRE:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. **IN CASE OF SPILL:** Remove all sources of ignition. Absorb spill with inert material, then place in a chemical waste container. Clean surface thoroughly to remove residual contamination.

The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment. The information relating to the working solution is for guidance purposes only, and is based on correct mixing and use of the product according to instructions.

R-2, S-3, F-2, C-0