Material Safety Data Sheet

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

Product name: KODAK Glacial Acetic Acid

Product code: 1454412

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

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

For other information or to request an MSDS, 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

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

NOTE: NFPA 704 (2007) hazard indexes involves data review and interpretation that may vary among companies. It is 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, move to fresh air. Get medical attention.

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin: 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 center 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 center 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

Methods for cleaning up: 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
	ACGIH	Short term exposure limit	15 ppm
	OSHA Z1	Permissible exposure limit	10 ppm 25 mg/m3

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.

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

Recommended Decontamination Facilities: Safety shower, eye wash, washing facilities as appropriate to condition of use.

9. Physical and Chemical Properties

Physical form: liquid

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: 0.6

Volatile fraction by weight: 100 %

Boiling point/range: 115.0 °C (239.0 °F)

Water solubility: complete

pH: 1.0

Flash point: 39.0 °C (102.2 °F) (Tag closed cup)

10. Stability and reactivity

Stability: Stable under normal conditions.

Exotherm onset temperature: 115 °C by DTA

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

Hazardous decomposition products: Carbon oxides.

Hazardous Polymerization: Hazardous polymerization 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 occured, 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: 4,960 mg/kg
- Inhalation LC50: 5620 ppm / 1.00 hr
- Dermal LD50: 1,060 mg/kg
- Skin irritation: severe
- Eye irritation: 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 daphnia (EC50):	10 - 100 mg/l
Toxicity to algae (IC50):	> 100 mg/l
Toxicity to other organisms (EC50):	> 100 mg/l
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

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

15. Regulatory information

Other regulations

American Conference of Governmental Industrial Hygienists (ACGIH):	none
International Agency for Research on Cancer (IARC):	none
U.S. National Toxicology Program (NTP):	none
U.S. Occupational Safety and Health Administration (OSHA):	none
U.S. California Prop. 65:	none
US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323):	Acetic acid
US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000):	No components are subject to Massachusetts Right To Know Act.
US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5):	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:

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

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, move to fresh air. Get medical attention. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately. 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 center 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 center 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.