

Section 1: Product & Company Information

Product Identifier: Glacial Acetic Acid, FG, USPK

Other Means of Identification

Product Number: No data available.

Recommended Use and Restrictions on Use

Recommended Use: No data available.

Restrictions on Use: None known.

Manufacturer / Importer / Supplier / Distributor Information

Company Name: CORECHEM Inc.

Address: 4320 Greenway Drive
Knoxville, TN 37918
USA

Information Telephone Number: 1-865-524-4239

Fax Number: 1-865-524-3375

Website: www.corecheminc.com

Contact Person: Regulatory Manager

E-mail: regulatory@corecheminc.com

Emergency Phone Number: Chemtrec® 1-800-424-9300 / Outside USA 1-703-527-3887 (monitored 24 hours/day)

Section 2: Hazards Identification

GHS Hazard Classification(s)

In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Physical Hazard(s)

Flammable, Liquids - 3

Health Hazard(s)

Corrosion/Irritation, Skin - 1A

Environmental Hazard(s)

Not classified.

Label Elements

Signal Word

DANGER

Hazard Symbol(s)



Hazard Statement(s)

H226: Flammable liquid and vapor.

H314: Causes severe skin burns and eye damage.

Precautionary Statements

General

Not applicable.

Prevention

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233: Keep container tightly closed.

P240: Ground/bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting/equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response

P301 + P330 + P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340: IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338+P310: 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 or doctor.

P321: Specific treatment (see supplemental first aid instructions on this label).

P363: Wash contaminated clothing before reuse.

P370 + P378: In case of fire: Use suitable extinguishing media for extinction.

Storage

P405 + P403 + P233 + P235 - Store locked up in a well-ventilated place. Keep container tightly closed. Keep cool.

Disposal

P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC)

May be corrosive to metals.

Section 3: Composition/Information on Ingredients

Substance

Chemical Identity ²	Common Name/Synonym(s)	CAS # ³	Weight %	Impurity or Stabilizing Additive
Acetic Acid	Glacial Acetic Acid	64-19-7	100%	No

1. Information regarding the composition and the percentage ranges of the mixtures ingredients are not presented as it Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professional), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.

2. Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.

3. "—" Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information

Remove contaminated, soaked clothing immediately and dispose of safely. Pay attention to your own protection. In any case, show the physician the Safety Data Sheet.

Inhalation

If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. Do not use mouth to mouth method if the victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If unconscious, maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Seek immediate medical attention.

Skin Contact

Flush skin with large amounts of water while removing contaminated clothing and continue rinsing for at least 15 minutes. Wash contaminated clothing thoroughly before reuse. Discard contaminated shoes. Seek immediate medical attention for chemical burns.

Eye Contact

Immediately flush your eyes with large amounts of water or saline solution for at least 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses, if present and easy to do, after the first 2 minutes and continue rinsing. Seek immediate medical attention, preferably from an ophthalmologist

Ingestion

Call a physician or poison control center immediately. Do NOT induce vomiting. If the victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than the hips to help prevent aspiration.

Most important symptoms/effects, acute and delayed

Symptoms

May irritate and cause redness and pain.

Indication of immediate medical attention and special treatment needed

Hazards

No data available.

Treatment

Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep the victim warm. Keep the victim under observation. Symptoms may be delayed. Observe for latent pulmonary edema.

Section 5: Fire-Fighting Measures

General Fire Hazards

Flammable liquid and vapor.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Use extinguishing media such as water fog or spray dry chemical, carbon dioxide or foam.

Unsuitable Extinguishing Media

Do not use a solid stream of water as it may scatter and spread a fire.

Specific Hazards Arising from the Chemical

Flammable liquid and vapor. Vapors are heavier than air and can travel along the ground to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. Exposure to ignition sources (e.g. cell phones) can ignite vapors, causing a flash fire. Closed containers may explode due to the buildup of pressure when exposed to extreme heat. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed. Obtain medical attention. Explosion hazards: Vapors may form an explosive mixture with air at high temperatures, especially in confined spaces.

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. Water contaminated by this material must be contained from being discharged to any waterway, sewer or drain to prevent environmental contamination.

Special Protective Equipment for Fire-Fighters

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Evacuate non-essential personnel. Wear appropriate protective clothing and equipment. Ventilate the area. Remove all sources of ignition. NO SMOKING. Clean up spills immediately. Spills create a slip hazard.

Methods and Materials for Containment and Clean-Up

Eliminate all ignition sources if safe to do so. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions

Avoid dispersal of spilled material or runoff and prevent contact with soil and entry into drains, sewers or waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements.

Section 7: Handling and Storage

Precautions for Safe Handling

Avoid contact with eyes, skin, and clothing. Do not breathe vapor or spray mist. Do not swallow. Eliminate every possible source of ignition, keep container tight closed when not in use. Carefully vent any internal pressure before removing closure. Wear the recommended personal protective equipment. After handling, always wash your hands thoroughly with soap and water. Avoid contact with incompatible agents. Use only with adequate ventilation/personal protection. Do not enter storage areas unless adequately ventilated. Metal containers involved in the transfer of this material should be grounded and bonded.

Acid or caustic must be transferred only through hose rated and certified for this service. Inspect frequently to identify bulging or leaking containers. Handle empty containers with care; residue may be harmful to eyes and skin. Do not overfill containers which may burst on freezing. Thaw frozen containers only at room temperature. Isolate, vent, drain, wash and purge systems or equipment before maintenance or repair. Check the atmosphere for explosiveness and oxygen deficiencies. Observe precautions pertaining to confined space entry. Do not pressurize or expose empty containers to open flame, sparks, or heat.

Conditions for Safe Storage, including any Incompatibilities

Store in the original container in dry, cool, well-ventilated areas away from incompatible materials, food and drink. Ground and bond containers when transferring material. Transfer only to approved containers having correct labeling. DO NOT store it in metal containers. Keep containers tightly closed when not in use. Protect containers from physical damage. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat or ignition sources. Containers are hazardous when empty as they contain product residue. Use appropriate containment to avoid environmental contamination. ventilate closed areas. Keep locked up and out of reach of children.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Value	Source
Acetic Acid	TWA	10 ppm	US. ACGIH Threshold Limit Values
Acetic Acid	STEL	15 ppm	US. ACGIH Threshold Limit Values
Acetic Acid	IDLH	50 ppm	2005 NIOSH
Acetic Acid	PEL	10 ppm 25 mg/m3	US OSHA Table Z-1

Biological Limit Values

The product does not contain any relevant quantities of hazardous materials with assigned biological limit values.

Appropriate Engineering Controls

Engineering controls, preferably enclosed systems, should be used whenever feasible to maintain exposures below acceptable criteria. When such controls are not feasible, or sufficient to achieve full conformance, other engineering controls such as local exhaust ventilation should be used. Engineering controls, preferably enclosed systems, should be used whenever feasible to maintain exposures below acceptable criteria. When such controls are not feasible, or sufficient to achieve full conformance, other engineering controls such as local exhaust ventilation should be used.

Individual protection measures, such as personal protective equipment (PPE)

General Information

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/Face Protection

Wear Chemical goggles when there is a reasonable chance of contact with the eyes. In addition to goggles, wear a face shield if there is a reasonable chance for a splash to the face.

Skin Protection

Hand Protection

Wear protective gloves to prevent contact.

Other

Wear protective clothing. Wear protective boots if the situation requires.

Respiratory Protection

Always use an approved respirator when vapor/aerosols exceed permissible exposure limits. Where risk assessment shows air-purifying respirators are appropriate use a half-mask respirator with multi-purpose combination (US) or type ABEK (EN 14382) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US). Follow OSHA respirator regulations found in 29 CFR 1910.134.

Hygiene Measures

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated footwear that cannot be cleaned. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact with eyes, skin, and clothing.

Section 9: Physical and Chemical Properties

Appearance:

Physical State: Liquid
Color: Colorless

Odor:

Pungent, vinegar-like

Odor Threshold:

0.23 - 100.1 ppm

pH:

2.47

Melting Point/Freezing Point:

17 °C (62.6 °F)

Initial Boiling Point and Boiling Range:

118. °C (244.4 °F)

Flash Point:

102°F (39°C) at 1,013 hPa (760 mm Hg)

Evaporation Rate (butyl acetate=1):

0.97 (N-Butyl acetate = 1)

Flammability (solid, gas):

Not applicable

Upper/Lower Limit on Flammability or Explosive Limits

Flammability Limit – Upper: No data available.

Flammability Limit – Lower: No data available.

Explosive Limit – Upper: 19.9 % (V)

Explosive Limit – Lower: 4.0 % (V)

Vapor Pressure:

20.79 hPa (25 °C)

Vapor Density (air = 1):

2.07 (air = 1)

Relative Density (water=1):

No Data Available

Solubility(ies):

Solubility in water: Soluble

Solubility (other): No data Available

Partition coefficient (n-octanol/water):

log Pow: -0.17

Auto-Ignition Temperature:

463 °C

Decomposition Temperature:

No data available.

Viscosity:

1.22 cPs @20 °C

Other Information:

Molecular Weight: 60.05 g/mol

Formula: C₄H₈O₂

Section 10: Stability and Reactivity

Reactivity

Stable under normal conditions of use.

Chemical Stability

Material is stable under normal conditions.

Possibility of Hazardous Reactions

Generates hydrogen gas on contact with metals. Hazardous polymerization will not occur.

Conditions to Avoid

Heat, sources of ignition, temperature extremes, contact with incompatible materials, contact with metals.

Incompatible Materials

Strong oxidizing agents, strong alkalis, strong bases, metals, amines, halogens, alcohols, peroxides, metal salts, alcohols, acetaldehyde, potassium permanganate, carbonates, nonmetallic halides, various plastics, rubbers and coatings

Hazardous Decomposition Products

Thermal decomposition products include oxides of carbon, hydrogen gas and initiating and toxic fumes.

Section 11: Toxicological Information

Information on routes of exposure

Ingestion: May cause burns of the gastrointestinal tract if swallowed.

Inhalation: May cause asthma-like symptoms

Skin Contact: Causes severe skin burns.

Eye Contact: Causes severe eye burns.

Information on Toxicological Effects

Acute Toxicity (List all possible routes of exposure)

Oral

Acetic Acid: LD50 (Rabbit): 3310 mg/kg

Dermal

Acetic Acid: LC50 (Rabbit): 1,112 g/kg

Inhalation

Acetic Acid: LC50 (Rat): 11.4 mg/l (4hr)

Repeated Dose Toxicity

No data available.

Skin Corrosion/Irritation

Causes serious skin burns and severe skin irritation.

Serious Eye Damage/Eye Irritation

Causes burns and serious eye damage. Risk of blindness!

Respiratory/Skin Sensitization

Exposure to vapors of this material can lead to cough, dyspnea, and asthma like symptoms.

Carcinogenicity

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

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.

US. National Toxicology Program (NTP) Report on Carcinogens

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.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

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.

Germ Cell Mutagenicity

In Vitro

No data available.

In Vivo

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.

Other Effects

No data available.

Section 12: Ecological Information

Ecotoxicity

Acute Hazards to the Aquatic Environment

Fish

Acetic Acid: LC50 - Pimephales promelas (Fathead minnow), static, 96 h: 88 mg/t

Aquatic Invertebrates

Acetic Acid: LC50 Daphnia magna (water flea), 24 - 48 h: 32 - 47 mg/l

Toxicity to Aquatic Plants

Acetic Acid: IC50 Scenedesmus quadricauda (Green algae), 16 h: 4,000 mg/l

Chronic Hazards to the Aquatic Environment

Fish

No data available.

Aquatic Invertebrates

No data available.

Toxicity to Aquatic Plants

No data available.

Persistence and Degradability

Biodegradation

Expected to be readily biodegradable.

BOD/COD Ratio
No data available.

Bioaccumulative Potential
Bioconcentration Factor (BCF)
3.16

Partition Coefficient n-octanol / water (log Kow)
No data available.

Mobility in Soil
No data available.

Other Adverse Effects
No data available.

Section 13: Disposal Considerations

Disposal Instructions

Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemicals or used containers. Contaminated products, soil, water, container residues and spill cleanup materials may be hazardous wastes. Contaminated products, soil or water should be considered dangerous due to potential evolution of flammable vapor. Comply with applicable local, state or international regulations concerning solid or hazardous waste disposal and/or container disposal. Proper grounding procedures to avoid static electricity should be followed. Decontaminate containers thoroughly before reuse/disposal.

Contaminated Packaging

Empty containers which have not been properly decontaminated should be designated U.S. Resource Conservation and Recovery Act hazardous waste number D001 (ignitable). Dispose of contents/ container to an approved incineration plant.

Section 14: Transportation Information

US Department of Transportation (DOT)

UN Number: UN2789
UN Proper Shipping Name: Acetic acid, glacial (*with more than 80 percent acid, by mass*)
Technical Name: -
Hazard Class: 8
Subsidiary Hazard Risk: 3
Packing Group: II
DOT Label/Placard Exemptions: Not determined
Special Provisions: A3, A7, A10, B2, IB2, T7, TP2
Packaging Exceptions: 49CFR 173.154
Packaging Non-Bulk: 49CFR 173.202
Packaging Bulk: 49CFR 173.243
Reportable Quantity (RQ): 5,000lb (2,270kg)
Marine Pollutant: No
Poison Inhalation Hazard: No
Special precautions for user: Transport within the user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Emergency Response Guidebook (ERG) #: 132

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

Section 15: Regulatory Information

US Federal Regulations

Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)

This product or ingredient(s) are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)

The following chemical(s) in this material are subject to reporting levels established by CERCLA:
Acetic Acid (CAS# 64-19-7)

Clean Air Act (CAA), Section 112(r)

No chemical(s) in this material are subject to the reporting requirements of CAA.

Emergency Planning and Community Right-To-Know Act (EPCRA)

EPCRA 302 Extremely Hazardous Substance

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 302.

EPCRA 304 Emergency Response Notification

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 304.

EPCRA 311/312 Emergency and Hazardous Materials Reporting

Fire Hazard: Yes
Sudden Release of Pressure: No
Reactive: No
Acute (Immediate) Health Hazard: Yes

Chronic (Delayed) Health Hazard: No

EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting

This material does not contain any chemical(s) with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

Section 16: Other Information

Hazardous Materials Identification System (HMIS®) Classification

Health Hazard: 3

Chronic Health Hazard: /

Flammability: 2

Physical Hazard: 0

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

National Fire Protection Association (NFPA 704) Rating

Health Hazard: 3

Fire Hazard: 2

Reactivity Hazard: 0

Special: n/a

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

Prepared By: Regulatory Manager

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Key to Abbreviations and Acronyms

ATE - Acute Toxicity Estimate

BCF - Bioconcentration Factor

EC50 - Effective concentration, 50%

IDHL - Immediately Dangerous to Life and Health

Kg - Kilogram

l - Liter

lb - Pound

LC50 - Lethal Concentration, 50%

LD50 - Lethal Dose, 50%

mg - milligram

ml - milliliter

N/A - Not Applicable

N/D - Not Determined

PEL - Permissible Exposure Limit

REL - Recommended Exposure Limit

STEL - Short-term Exposure Limit

TWA - Time weighted average

ACGIH - American Conference of Industrial Hygienists

AIHA - American Industrial Hygiene Association

BEI - Biological Exposure Indices

CAS - Chemical Abstracts Service

DOT - US Department of Transportation

EPA - US Environmental Protection Agency

GHS - Globally Harmonized System of Classification and Labelling of Chemicals

IARC - International Agency for Research on Cancer

IATA - International Air Transport Association

IBC - Intermediate Bulk Container

IMDG - International Maritime Dangerous Goods

NIOSH - National Institute for Occupational Safety and Health

NTP - National Toxicology Program

OSHA - US Occupational Health and Safety Administration

SARA - US EPA Superfund Amendments and Reauthorization Act

TSCA - US EPA Toxic Substances Control Act

UN - United Nations

References

HSDB® - Hazardous Substances Data Bank

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