

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name KC-602

Other means of identification

Product Code 20578

Recommended use of the chemical and restrictions on use

Recommended Use Antimicrobial solution

Uses advised against Follow the directions for use on the label when applying this product

Details of the supplier of the safety data sheet

Manufacturer Address

Safe Foods Chemical Innovations
1501 E. 8th Street
North Little Rock, AR 72114

Emergency telephone number

Company Phone Number 501-758-8500
Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 1
Skin corrosion/irritation	Category 1 Sub-category A
Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Oxidizing liquids	Category 2
Organic peroxides	Type F
Corrosive to metals	Category 1

Label elements

Emergency Overview

DANGER

Hazard statements

Causes severe skin burns and eye damage
Harmful if swallowed or inhaled
May intensify fire; oxidizer
Heating may cause a fire
May be corrosive to metals



Physical state Liquid

Color Clear, Colorless

Odor Strong vinegar

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dusts or mists
Wear protective gloves/protective clothing/eye protection/face protection
Keep/Store away from clothing/combustible materials
Take any precaution to avoid mixing with combustibles.
Keep away from heat/sparks/open flames/hot surfaces. No smoking
Keep only in original container

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor. Specific treatment (see Section 4 on SDS)
 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
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. Wash contaminated clothing before reuse
 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting
 In case of fire: Use CO2, dry chemical, or foam for extinction
 Absorb spillage to prevent material damage

Precautionary Statements - Storage

Store locked up. Store at temperatures not exceeding 86°F. Keep cool. Store away from other materials. Protect from sunlight.
 Store in corrosive resistant container with a resistant inner liner

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

- Toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS		
Chemical Name	CAS No.	Weight-%
Acetic acid	64-19-7	40-50
Peroxyacetic acid	79-21-0	21-23
Water	7732-18-5	20-35
Hydrogen peroxide	7722-84-1	4.2-5.2
1-Hydroxyethane-1, 1-diphosphonic acid	2809-21-4	< 1
Sulfuric acid	7664-93-9	0.07

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

Eye contact Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin contact Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash contaminated clothing before reuse.

Inhalation Remove person to fresh air and keep comfortable for breathing. Call a poison control center or doctor for treatment advice. Administer oxygen if breathing is difficult. If direct contact during rescue breathing poses a threat to the first aid provider, "Avoid mouth-to-mouth contact by using a barrier device.". Symptoms of pulmonary edema can be delayed up to 48 hours after exposure.

Ingestion Rinse mouth. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Call a poison control center or doctor immediately for treatment advice.

Most important symptoms and effects, both acute and delayed

Symptoms See Section 11 for symptom information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Probable mucosal damage may contraindicate the use of gastric lavage. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Extinguishing powder. Foam. Carbon dioxide (CO2). Water spray (fog).

Unsuitable extinguishing media Do not use halogenated extinguishing agents (NFPA 400, 15.2.5.3.3 2016 edition). Chemical type extinguishers are not effective with peracetic acid or hydrogen peroxide, which are ingredients in this product. Do not use straight streams.

Specific hazards arising from the chemical

NFPA Class 1 oxidizer. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

Hazardous combustion products Oxygen that supports combustion and acetic acid. May cause fire or explosions when in contact with incompatible materials.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers with flooding quantities of water until well after fire is out. Stay upwind. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protection recommended in Section 8. Ensure adequate ventilation, especially in confined areas.

For emergency responders Isolate area. Keep unnecessary personnel away.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas. See section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Dike to collect large liquid spills. Neutralize with sodium bicarbonate, soda ash, or lime. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Following product recovery, flush area with water. Never return unused product to the original container.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Never return unused product to the original container. Ensure an adequate supply of water is available in the event of an accident. Do not contaminate water, food or feed. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Use only in well-ventilated areas. Avoid breathing vapors or mists. Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Containers must be vented. Keep/store only in original container. Keep from freezing. Never return unused product to the original container. Do not store in direct sunlight, or near sources of ignition or heat. Use first in, first out storage system. Keep at a temperature not exceeding 86°F (30°C). NFPA Class 1 oxidizer. Oxidizers need to be separated by at least 25 feet from flammable and combustible liquid containers. Separation shall be maintained by dikes, drains, or floor slopes to prevent flammable liquid leakage from encroaching on the separation (NFPA 400 15.2.12.13.1). At least one side of each pile of oxidizers shall be on an aisle (NFPA 400, 15.2.11.3 2016 edition). NFPA Class 1 oxidizers must be separated by at least 8 feet from incompatible materials and combustible commodities (NFPA 400 Table 15.3.2.2.2(A)(b) 2016 edition).

Incompatible materials Flammable substances. Heat. Dirt. Strong reducing agents. Certain soft metals. Bases (unless product has been diluted to less than 1000 ppm, then bases may be used to gradually adjust to a pH of less than 9). Solutions of sodium and/or potassium hydroxide may be mixed with or added to water containing peroxyacetic acid solutions (< 4000 ppm) with no known adverse health, safety or physical concerns. No known side reactions or noxious by-products will occur.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Acetic acid 64-19-7	STEL: 15 ppm TWA: 10 ppm	TWA: 10 ppm, 25 mg/m ³	IDLH: 50 ppm TWA: 10 ppm, 25 mg/m ³ STEL: 15 ppm, 37 mg/m ³
Peroxyacetic acid 79-21-0	STEL: 0.4 ppm inhalable fraction and vapor	-	-
Hydrogen peroxide 7722-84-1	TWA: 1 ppm	TWA: 1 ppm, 1.4 mg/m ³	IDLH: 75 ppm TWA: 1 ppm, 1.4 mg/m ³

Appropriate engineering controls

Engineering Controls Showers, eyewash stations, ventilation system.

Individual protection measures, such as personal protective equipment

Eye/face protection Splash proof chemical goggles and face shield.

Skin and body protection Chemical resistant gloves, suit and boots. Wash contaminated clothing and shoes before reuse.

Respiratory protection When handling concentrated product, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Wash face, hands and any exposed skin thoroughly after handling. Wash contaminated clothing and shoes before reuse. Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Odor	Strong vinegar
Appearance	Aqueous solution	Odor threshold	No information available
Color	Clear, Colorless	Remarks • Method	
Property	Values		
pH	0.5		±0.5 @ 21°C (10% solution)
Melting point / freezing point	< -17 °C / < 0 °F		
Boiling point / boiling range	No information available		
Flash point	> 93.3 °C / > 200 °F	Closed cup	
Evaporation rate	< 1		
Flammability (solid, gas)	Not flammable		
Flammability Limit in Air			
Upper flammability limit:	No information available		
Lower flammability limit:	No information available		
Vapor pressure	46.8 mm Hg @25°C		
Vapor density	No information available		
Specific Gravity	1.11 g/cc		
Water solubility	Soluble in water		
Solubility in other solvents	No information available		
Partition coefficient	No information available		
Autoignition temperature	270 °C / 518 °F		
Decomposition temperature	No information available		
Kinematic viscosity	5-15 cSt @ 20°C		
Dynamic viscosity	No information available		
Explosive properties	No information available		
Oxidizing properties	May intensify fire; oxidizer		
VOC Content (%)	72% (6.67 lbs/gal)		

10. STABILITY AND REACTIVITY

Reactivity

Reactive with bases, metals, reducing agents and combustible materials.

Chemical stability

Product is shelf-stable for up to 1 year when stored in a closed container at room temperature and not in direct sunlight. Avoid open flames, elevated temperatures. Temperatures above 86°F will degrade product, accelerate decomposition and reduce shelf life.

Possibility of Hazardous Reactions

May react with incompatible materials.

Conditions to avoid

Incompatible materials and high temperatures.

Incompatible materials

Flammable substances. Heat. Dirt. Strong reducing agents. Certain soft metals. Bases (unless product has been diluted to less than 1000 ppm, then bases may be used to gradually adjust to a pH of less than 9). Solutions of sodium and/or potassium hydroxide may be mixed with or added to water containing peroxyacetic acid solutions (< 4000 ppm) with no known adverse health, safety or physical concerns. No known side reactions or noxious by-products will occur.

Hazardous Decomposition Products

Oxygen that supports combustion and acetic acid.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Inhalation of peracetic acid vapors causes lacrimation and irritation of the mucous membranes, eyes and nasal passages.
Eye contact	Corrosive to the eyes and may cause severe damage including blindness.
Skin Contact	Corrosive. Contact causes severe skin irritation and possible burns.
Ingestion	Corrosive. Swallowing causes severe burns of mouth, throat and stomach. Ingestion can cause nausea, vomiting, diarrhea, corrosion, burns to mouth and esophagus, abdominal pain, shortness of breath, seizures, and death.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Acetic acid 64-19-7	= 3310 mg/kg (Rat)	= 1060 mg/kg (Rabbit)	= 11.4 mg/L (Rat) 4 h
Peroxyacetic acid 79-21-0	= 1540 mg/kg (Rat)	> 2000 mg/kg (Rat)	= 476 mg/m ³ (Rat) 1 h
Hydrogen peroxide 7722-84-1	= 376 mg/kg (Rat)	= 9200 mg/kg (Rabbit)	= 2000 mg/m ³ (Rat) 4 h

Information on toxicological effects

Symptoms No information available.
Delayed and immediate effects as well as chronic effects from short and long-term exposure
Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Hydrogen peroxide - 7722-84-1	A3	Group 3	-	-

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 3 - "not classifiable as human carcinogens"

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 1 % of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document

Oral LD50 868.80 mg/kg
Dermal LD50 2,094.80 mg/kg
Mist 4.480 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects
 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Acetic acid 64-19-7	-	75: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 79: 96 h <i>Pimephales promelas</i> mg/L LC50 static	65: 48 h <i>Daphnia magna</i> mg/L EC50 Static
Peroxyacetic acid 79-21-0	-	1.1: 96 h <i>Lepomis macrochirus</i> mg/L LC50 semi-static	-
Hydrogen peroxide 7722-84-1	-	10.0 - 32.0: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static 18 - 56: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 16.4: 96 h <i>Pimephales promelas</i> mg/L LC50	18 - 32: 48 h <i>Daphnia magna</i> mg/L EC50 Static

Persistence and degradability

Not expected to persist. Readily biodegradable.

Bioaccumulation

Not expected to bioaccumulate.

Chemical Name	Partition coefficient
Acetic acid - 64-19-7	-0.31

Mobility

No information available.

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Dispose of in accordance with federal, state and local regulations.

US EPA Waste Number D002

14. TRANSPORT INFORMATION

DOT

UN/ID No. 3109
Proper shipping name Organic peroxide type F, liquid (<=25% peracetic acid with <=26% hydrogen peroxide)
Hazard Class 5.2
Subsidiary class 8
Emergency Response Guide Number 145

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDL Complies
EINECS/ELINCS Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Peroxyacetic acid - 79-21-0	1.0

SARA 311/312 Hazard Categories

Acute health hazard Yes
 Chronic Health Hazard No
 Fire hazard Yes
 Sudden release of pressure hazard No
 Reactive Hazard Yes

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Acetic acid - 64-19-7	5000 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Acetic acid - 64-19-7	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
Peroxyacetic acid - 79-21-0	-	500 lb	-
Hydrogen peroxide - 7722-84-1	-	1000 lb	-

US State Regulations

California Proposition 65

WARNING! "This product can expose you to chemicals which is [are] known to the State of California to cause cancer. For more information go to www.p65warnings.ca.gov." Sulfuric acid 7664-93-9;

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Acetic acid - 64-19-7	X	X	X
Peroxyacetic acid - 79-21-0	X	X	X
Hydrogen peroxide - 7722-84-1	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number 63838-20-63679

16. OTHER INFORMATION

NFPA Health hazards 3 Flammability 1 Instability 1 **Physical and Chemical Properties**
 OX - Oxidizer - Corrosive
HMIS Health hazards 3 Flammability 1 Physical hazards 1 **Personal protection** H (splash goggles, gloves, synthetic apron, vapor respirator)

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The health hazards given on this SDS apply to this product in its concentrated form (as supplied) and may differ significantly at use dilution. The signs and symptoms of exposure apply only to negligence in handling or misuse of the concentrated product and not to the routine exposure of the diluted product under conditions of ordinary use.

End of Safety Data Sheet