SAFETY DATA SHEET

Revision Date 27-Jan-2023 **Version** 1

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

Product identifier

Product Name **PC-422**

Other means of identification

Product Code 30922

Recommended use of the chemical and restrictions on use

Recommended Use pH modifier in FDA applications

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
Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Corrosive to metals	Category 1

Label elements

Emergency Overview

DANGER

Hazard statements

Causes severe skin burns and eye damage
Harmful if swallowed
Harmful if inhaled
May be corrosive to metals

Appearance Aqueous solution **Color** Colorless to pale yellow **Odor** Acidict

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Do not eat, drink or smoke when using this product
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: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting

SPILL: Absorb spillage to prevent material damage

Precautionary Statements - Storage

Store locked up. 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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Water	7732-18-5	65-75
Hydrochloric acid	7647-01-0	20-25
Citric acid	77-92-9	5-10

*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. Seek immediate medical attention/advice.

Skin contact Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. For severe burns, immediate medical attention is required. Wash contaminated clothing and shoes before reuse.

Inhalation Remove to fresh air. Administer oxygen if breathing is difficult. If symptoms persist, call a physician.

Ingestion Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician immediately.

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 Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Dry chemical. Water spray (fog). Carbon dioxide (CO2). Foam.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

Exothermic reaction will occur upon dilution with water. Contact with metals may evolve flammable hydrogen gas.

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. Move containers from fire area if you can do it without risk. Stay upwind. Cool containers with flooding quantities of water until well after fire is out.

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

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up Soak up with inert absorbent material. Collect spillage. Sweep up and shovel into suitable containers for disposal. Collect spills in plastic containers only. Following product recovery, flush area with water. Ensure adequate decontamination of tools and equipment following clean up.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Exothermic reaction will occur upon dilution with water. Add product to water, never add water to this product. 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. Do not store in aluminum containers or use aluminum fittings or transfer lines, as flammable hydrogen gas may be generated. Do not allow water to get into container. Protect from direct sunlight. Keep from freezing.

Incompatible materials Alkalis. Strong oxidizing agents. Metals. Sodium hypochlorite.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrochloric acid 7647-01-0	Ceiling: 2 ppm	(vacated) Ceiling: 5 ppm, 7 mg/m^3 Ceiling: 5 ppm, 7 mg/m^3	IDLH: 50 ppm Ceiling: 5 ppm, 7 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 Wear protective Neoprene™ gloves or rubber gloves. Wear suitable protective clothing. Rubber boots recommended.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. 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
Appearance Aqueous solution
Color Colorless to pale yellow
Odor Acidic
Odor threshold No information available

Property	Values	Remarks • Method
pH	< 2	
Melting point / freezing point	-35 °C / -31 °F	
Boiling point / boiling range	105 °C / 221 °F	
Flash point	Not flammable	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	1.16 g/cc	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	10-20 cSt @ 20°C	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	
VOC Content (%)	negligible	

10. STABILITY AND REACTIVITY

Reactivity

Reactive with alkalis, attacks most metals, some violently releasing hydrogen gas; flames with fluorine.

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions
Reactive with oxidizing agents, reducing agents, metals, bases and alkalis.
Conditions to avoid
Incompatible materials and high temperatures.
Incompatible materials
Alkalis. Strong oxidizing agents. Metals. Sodium hypochlorite.
Hazardous Decomposition Products
Corrosive chlorine gas and flammable/explosive hydrogen gas.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Product Information

Inhalation Corrosive by inhalation. Inhalation might cause cough. Vapors may be irritating to eyes, nose, throat, and lungs. Aspiration may cause pulmonary edema and pneumonitis.

Eye contact Risk of serious damage to eyes. Corrosive to the eyes and may cause severe damage including blindness.

Skin Contact Corrosive! Contact causes severe skin irritation and possible burns.

Ingestion Corrosive! Ingestion can cause nausea, vomiting, diarrhea, burns to mouth and esophagus, abdominal pain, and death. Aspiration may cause pulmonary edema and pneumonitis. Damage may appear days after exposure.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Hydrochloric acid 7647-01-0	238 - 277 mg/kg (Rat)	> 5010 mg/kg (Rabbit)	= 1.68 mg/L (Rat) 1 h
Citric acid 77-92-9	= 3 g/kg (Rat) = 3000 mg/kg (Rat)	-	-

Information on toxicological effects
Symptoms Erosion of teeth, dermatitis.
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
Hydrochloric acid - 7647-01-0	-	Group 3	-	X

IARC (International Agency for Research on Cancer)
Group 3 - "not classifiable as human carcinogens"
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

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 35 % 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 923.00 mg/kg
Dermal LD50 20,060.04 mg/kg
Gas 2,253.21 mg/l
Mist 2.00 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity
0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Hydrochloric acid 7647-01-0	-	282: 96 h Gambusia affinis mg/L LC50 static	-
Citric acid 77-92-9	-	1516: 96 h Lepomis macrochirus mg/L LC50 static	120: 72 h Daphnia magna mg/L EC50

Persistence and degradability
Not readily biodegradable.
Bioaccumulation
Not expected to bioaccumulate.

Chemical Name	Partition coefficient
Citric acid - 77-92-9	-1.72

Mobility
Soluble in water.

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.

14. TRANSPORT INFORMATION

DOT

UN/ID No. 1760

Proper shipping name Corrosive liquids, n.o.s. (hydrochloric acid mixture)

Hazard Class 8

Packing Group II

Emergency Response Guide Number 154

15. REGULATORY INFORMATION

International Inventories

TSCA Complies

DSL/NDSL Complies

EINECS/ELINCS Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - 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

Note: Hydrochloric acid only needs to be reported if it is in an aerosol form (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

Chemical Name	SARA 313 - Threshold Values %
Hydrochloric acid - 7647-01-0	1.0

SARA 311/312 Hazard Categories

Acute health hazard Yes

Chronic Health Hazard No

Fire hazard No

Sudden release of pressure hazard No

Reactive Hazard No

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
Hydrochloric acid 7647-01-0	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)
Hydrochloric acid 7647-01-0	5000 lb	5000 lb	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Hydrochloric acid 7647-01-0	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

NFPA	**Health hazards**	3	**Flammability**	0	**Instability**	0	**Physical and Chemical Properties** Corrosive, Acid
HMIS	**Health hazards**	3	**Flammability**	0	**Physical hazards**	0	**Personal protection** D (face shield, gloves, synthetic apron)

Prepared By	Technical Department
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Revision Note	Company name update.

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