



J.T. Baker Inc.
222 Red School Lane
Phillipsburg, NJ 08865

24-Hour Emergency Telephone 908-859-2151
National Response Center 800-424-8802
Chemtrec 800-424-9300

National Response In Canada
CANUTEC 613-996-6666

Outside U.S. and Canada
Chemtrec 202-483-7616

MATERIAL SAFETY DATA SHEET

FICHE
SIGNALÉTIQUE

HOJAS DE DATOS
DE SEGURIDAD

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals. All non-emergency questions should be directed to Customer Service (1-800-JTBAKER) for assistance.

P1564 -02
Effective: 03/09/92

Perchloric Acid, 69-72%

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Issued: 03/13/93

J.T. BAKER INC., 222 Red School Lane, Phillipsburg, NJ 08865

SECTION I - PRODUCT IDENTIFICATION

Product Name: Perchloric Acid, 69-72%
Common Synonyms: N/A
Chemical Family: Inorganic Acids
Formula: HClO₄
Formula Wt.: 100.46
CAS No.: 7601-90-3
NIOSH/RTECS No.: SC7500000
Product Use: Laboratory Reagent
Product Codes: 9652,4805,6905,9653,9656

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* System

HEALTH SEVERE	FLAMMABILITY NONE	REACTIVITY SEVERE	CONTACT EXTREME
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Laboratory Protective Equipment



U.S. Precautionary Labeling

POISON! DANGER!

CAUSES SEVERE BURNS. HARMFUL IF SWALLOWED OR INHALED. MAY FORM EXPLOSIVE PEROXIDES UNDER AIR PRESSURE. STRONG OXIDIZER. CONTACT WITH COMBUSTIBLE MATERIALS, FLAMMABLE MATERIALS, OR POWDERED METALS CAN CAUSE FIRE OR EXPLOSION, ESPECIALLY WHEN HEATED.

Keep from contact with clothing and other combustible materials. Do not store near combustible materials. Do not get in eyes, on skin, on clothing. Do not breathe vapor. Keep in tightly closed container in a cool area. Use with adequate ventilation. Wash thoroughly after handling. In case of spill, flush away with large amount of water. Neutralize washings with lime or soda ash.

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PRECAUTIONARY LABELING (CONTINUED)

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International Labeling

Avoid contact with eyes. After contact with skin, wash immediately with plenty of water. Keep container tightly closed.

SAF-T-DATA* Storage Color Code: Yellow (reactive)

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SECTION II - COMPONENTS

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<u>Component</u>	<u>CAS No.</u>	<u>Weight %</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>
Water	7732-18-5	28-40	N/E	N/E
Perchloric Acid	7601-90-3	60-72	N/E	N/E

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SECTION III - PHYSICAL DATA

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Boiling Point: 203°C (397°F)
(at 760 mm Hg)

Vapor Pressure (mmHg): N/A

Melting Point: -17°C (1°F)
(at 760 mm Hg)

Vapor Density (air=1): 3.5

Specific Gravity: 1.67
(H₂O=1)

Evaporation Rate: N/A

Solubility(H₂O): Complete (100%)

% Volatiles by Volume: 100
(21°C)

pH: N/A

Odor Threshold (ppm): N/A

Physical State: Liquid

Coefficient Water/Oil Distribution: N/A

Appearance & Odor: Colorless liquid, Odorless.



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SECTION IV - FIRE AND EXPLOSION HAZARD DATA

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Flash Point (Closed Cup): N/A

NEPA 704M Rating: 3-0-3 OXY

Autoignition Temperature: N/A

Flammable Limits: Upper - N/A Lower - N/A

Fire Extinguishing Media
Use water spray.

Special Fire-Fighting Procedures

Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in positive pressure mode. Move containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool.

Unusual Fire & Explosion Hazards

Strong oxidizer. Contact with combustible materials, flammable materials, or powdered metals can cause fire or explosion. May form explosive peroxides, especially when heated.

Toxic Gases Produced

hydrogen chloride, hydrogen

Explosion Data-Sensitivity to Mechanical Impact

None identified.

Explosion Data-Sensitivity to Static Discharge

None identified.

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SECTION V - HEALTH HAZARD DATA

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Threshold Limit Value (TLV/TWA): Not Established

Short-Term Exposure Limit (STEL): Not Established

Permissible Exposure Limit (PEL): Not Established

Toxicity of components

Intraperitoneal Mouse LD ₅₀ for Water	190 g/kg
Intravenous Mouse LD ₅₀ for Water	25 g/kg



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SECTION V - HEALTH HAZARD DATA (CONTINUED)

Oral Rat LD₅₀ for Perchloric Acid 3310 mg/kg

Carcinogenicity: NTP: No IARC: No Z List: No OSHA Reg: No

Carcinogenicity
None identified.

Reproductive Effects
None identified.

Effects of Overexposure

- INHALATION: coughing, chest pains, irritation of nose and throat
- SKIN CONTACT: severe irritation or burns
- EYE CONTACT: severe irritation or burns
- SKIN ABSORPTION: none identified
- INGESTION: severe burns to mouth, throat, and stomach, headache, nausea, vomiting, dizziness, gastrointestinal irritation
- CHRONIC EFFECTS: none identified

Target Organs
none identified

Medical Conditions Generally Aggravated by Exposure
none identified

Primary Routes of Entry
none indicated

Emergency and First Aid Procedures

- INGESTION: CALL A PHYSICIAN. If swallowed, if conscious, give large amounts of water. Induce vomiting.
- INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
- SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before re-use.



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SECTION V - HEALTH HAZARD DATA (CONTINUED)

EYE CONTACT: In case of eye contact, immediately flush with plenty of water for at least 15 minutes.

SARA/TITLE III HAZARD CATEGORIES and LISTS

Acute: Yes Chronic: Yes Flammability: Yes Pressure: No Reactivity: No

Extremely Hazardous Substance: No
CERCLA Hazardous Substance: No
SARA 313 Toxic Chemicals: No
TSCA Inventory: Yes

SECTION VI - REACTIVITY DATA

Stability: Stable Hazardous Polymerization: Will not occur

Conditions to Avoid: heat, shock

Incompatibles: strong reducing agents, organic materials, strong dehydrating agents, most common metals, combustible materials, alcohols

Decomposition Products: chlorine, hydrogen chloride, hydrogen

SECTION VII - SPILL & DISPOSAL PROCEDURES

Steps to be Taken in the Event of a Spill or Discharge

Wear self-contained breathing apparatus and full protective clothing. Stop leak if you can do so without risk. Ventilate area. Neutralize spill with soda ash or lime. With clean shovel, carefully place material into clean, dry container and cover; remove from area. Flush spill area with water. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

J. T. Baker NEUTRASORB^R acid neutralizer is recommended for spills of this product.

Disposal Procedure

Dispose in accordance with all applicable federal, state, and local environmental regulations.



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SECTION VII - SPILL & DISPOSAL PROCEDURES (CONTINUED)

EPA Hazardous Waste Number: D002, D003 (Corrosive, Reactive Waste)

SECTION VIII - INDUSTRIAL PROTECTIVE EQUIPMENT

Ventilation: Use adequate general or local exhaust ventilation to keep vapor and mist levels as low as possible.

Respiratory Protection: None required where adequate ventilation conditions exist. If airborne concentration is high, a chemical cartridge respirator with acid cartridge is recommended. If concentration exceeds capacity of cartridge respirator, a self-contained breathing apparatus is advised.

Eye/Skin Protection: Safety goggles and face shield, uniform, protective suit, neoprene gloves are recommended.

SECTION IX - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* Storage Color Code: Yellow (reactive)

Storage Requirements

Keep container tightly closed. Store separately and away from flammable and combustible materials. Protect from freezing.

Special Precautions

Use of a specialized fume hood for perchloric acid may be required if high vapor concentrations are present to prevent formation of explosive metal perchlorates.

SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

Domestic (D.O.T.)

Proper Shipping Name: Perchloric acid (50-72% assay)
Hazard Class: Oxidizer
UN/NA: UN1873
Labels: OXIDIZER, CORROSIVE



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SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (CONTINUED)

Regulatory References: 49CFR 172.101; 173.269

International (I.M.O.)

Proper Shipping Name: Perchloric acid (50-72% assay)
Hazard Class: 5.1 I.M.O. Page: 5058
UN: UN1873 Marine Pollutants: No Packaging Group: I
Labels: OXIDIZING AGENT, CORROSIVE
Regulatory References: 49CFR 172.102; Part 176; IMO

AIR (I.C.A.O.)

Proper Shipping Name: Perchloric acid (50-72% assay)
Hazard Class: 5.1 Packaging Group: I
UN: UN1873
Labels: OXIDIZING AGENT, CORROSIVE
Regulatory References: 49CFR 172.101; 173.6; Part 175; ICARO/IATA== We believe the transportation data and references contained herein to be factual and the opinion of qualified experts. The data is meant as a guide to the overall classification of the product and is not package size specific, nor should it be taken as a warranty or representation for which the company assumes legal responsibility.== The information is offered solely for your consideration, investigation, and verification. Any use of the information must be determined by the user to be in accordance with applicable Federal, State, and Local laws and regulations. See shipper requirements 49CFR 172.3 and employee training 49CFR 173.1.

U.S. Customs Harmonization Number: 28111900004

N/A = Not Applicable or Not Available
N/E = Not Established

The information in this Material Safety Data Sheet meets the requirements of the United States OCCUPATIONAL SAFETY AND HEALTH ACT and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) and the Canadian WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in, or supervised by a person trained in, chemical handling. The user is responsible for determining the precautions and dangers of this chemical for his or her particular application. Depending on usage, protective clothing including eye and

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 face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes.

Exposure to this product may have serious adverse health effects. This chemical may interact with other substances. Since the potential uses are so varied, Baker cannot warn of all of the potential dangers of use or interaction with other chemicals or materials. Baker warrants that the chemical meets the specifications set forth on the label.

BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

The user should recognize that this product can cause severe injury and even death, especially if improperly handled or the known dangers of use are not heeded. READ ALL PRECAUTIONARY INFORMATION. As new documented general safety information becomes available, Baker will periodically revise this Material Safety Data Sheet.

Note: CHEMTREC, CANUTEC, and NATIONAL RESPONSE CENTER emergency telephone numbers are to be used ONLY in the event of CHEMICAL EMERGENCIES involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to Customer Service (1-800-JTBAKER) for assistance.

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Approved by Quality Assurance Department.