

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Product name : Perchloric Acid, 8% w/v  
 Product code : 07299, FF06402

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : For laboratory and manufacturing use only.

#### 1.3. Details of the supplier of the safety data sheet

LabChem Inc  
 Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court  
 Zelienople, PA 16063 - USA  
 T 412-826-5230 - F 724-473-0647  
[info@labchem.com](mailto:info@labchem.com) - [www.labchem.com](http://www.labchem.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS-US)

Ox. Liq. 3 H272 - May intensify fire; oxidiser  
 Skin Corr. 1B H314 - Causes severe skin burns and eye damage

Full text of H-phrases: see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS03

GHS05

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H272 - May intensify fire; oxidizer  
 H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS-US) : P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking  
 P220 - Keep/Store away from clothing, combustible materials  
 P221 - Take any precaution to avoid mixing with combustibles  
 P260 - Do not breathe mist, vapors, spray  
 P264 - Wash exposed skin thoroughly after handling  
 P280 - Wear protective gloves, protective clothing, eye protection, face protection  
 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  
 P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P310 - Immediately call a poison center or doctor/physician  
 P363 - Wash contaminated clothing before reuse  
 P370+P378 - In case of fire: Use carbon dioxide (CO2), powder, alcohol-resistant foam to extinguish  
 P405 - Store locked up  
 P501 - Dispose of contents/container to comply with local, state and federal regulations  
 If inhaled: Remove person to fresh air and keep comfortable for breathing

#### 2.3. Other hazards

Other hazards not contributing to the classification : None.

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

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### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Water	(CAS No) 7732-18-5	92	Not classified
Perchloric Acid, 70% w/w	(CAS No) 7601-90-3	8	Ox. Liq. 1, H271 Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318

Full text of H-phrases: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
- First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor/physician.
- First-aid measures after eye contact : 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/physician.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

#### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Causes severe skin burns and eye damage.

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

#### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : May intensify fire; oxidizer.
- Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
- Reactivity : Thermal decomposition generates : Corrosive vapors.

#### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Fight fire remotely due to the risk of explosion.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : No naked lights. No smoking.

##### 6.1.1. For non-emergency personnel

- Protective equipment : Safety glasses. Gloves.
- Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Hazardous waste due to potential risk of explosion.  
Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Take any precaution to avoid mixing with Combustibles. Do not breathe mist, vapors, spray.  
Hygiene measures : Wash exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Comply with applicable regulations.  
Storage conditions : Keep only in the original container in a cool, well ventilated place away from : combustible materials, incompatible materials. Keep container closed when not in use. Keep in fireproof place.  
Incompatible products : Strong bases. Strong reducing agents. combustible materials. Ammonia. metals.  
Incompatible materials : Sources of ignition. Direct sunlight. Heat sources. Combustible material.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.  
Personal protective equipment : Avoid all unnecessary exposure.  
Hand protection : Wear protective gloves.  
Eye protection : Chemical goggles or face shield.  
Skin and body protection : Wear suitable protective clothing.  
Respiratory protection : Wear appropriate mask.  
Other information : Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Liquid  
Color : Colorless  
Odor : None.  
Odor threshold : No data available  
pH : No data available  
Melting point : No data available  
Freezing point : No data available  
Boiling point : No data available  
Flash point : No data available  
Relative evaporation rate (butyl acetate=1) : No data available  
Flammability (solid, gas) : No data available  
Explosion limits : No data available  
Explosive properties : No data available  
Oxidizing properties : May intensify fire; oxidizer.

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Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Solubility	: Soluble in water. Water: Solubility in water of component(s) of the mixture : • Perchloric Acid, 70% w/w: Complete
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Thermal decomposition generates : Corrosive vapors.

### 10.2. Chemical stability

Stable under normal conditions. May intensify fire; oxidizer.

### 10.3. Possibility of hazardous reactions

Reacts exothermically with combustible materials: (increased) risk of fire.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Heat. Sparks. Overheating. Open flame.

### 10.5. Incompatible materials

Strong reducing agents. Strong bases. Ammonia. combustible materials. metals. Organic compounds.

### 10.6. Hazardous decomposition products

Hydrogen chloride. oxygen. Chlorine.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Likely routes of exposure : Skin and eye contact

Acute toxicity : Not classified

Perchloric Acid, 70% w/w (7601-90-3)	
LD50 oral rat	1100 mg/kg
ATE US (oral)	1100.000 mg/kg body weight
Water (7732-18-5)	
LD50 oral rat	≥ 90000 mg/kg
ATE US (oral)	90000.000 mg/kg body weight

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

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Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 12.2. Persistence and degradability

Perchloric Acid, 8% w/v	
Persistence and degradability	Not established.
Perchloric Acid, 70% w/w (7601-90-3)	
Persistence and degradability	Biodegradability: not applicable. No test data on mobility of the components available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
Water (7732-18-5)	
Persistence and degradability	Not established.

#### 12.3. Bioaccumulative potential

Perchloric Acid, 8% w/v	
Bioaccumulative potential	Not established.
Perchloric Acid, 70% w/w (7601-90-3)	
BCF fish 1	$\leq 1$ (BCF)
Log Pow	-4.63 (Estimated value)
Bioaccumulative potential	Not bioaccumulative.
Water (7732-18-5)	
Bioaccumulative potential	Not established.

#### 12.4. Mobility in soil

Perchloric Acid, 70% w/w (7601-90-3)	
Surface tension	0.07 N/m (25 °C)

#### 12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

Other information : Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.

Additional information : Clean up even minor leaks or spills if possible without unnecessary risk.

Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1802 Perchloric acid (with not more than 50 percent acid by mass), 8, II

UN-No.(DOT) : UN1802

Proper Shipping Name (DOT) : Perchloric acid  
with not more than 50 percent acid by mass

Transport hazard class(es) (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

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Hazard labels (DOT)

: 8 - Corrosive  
5.1 - Oxidizer



Packing group (DOT)

: II - Medium Danger

DOT Packaging Non Bulk (49 CFR 173.xxx)

: 202

DOT Packaging Bulk (49 CFR 173.xxx)

: 243

DOT Special Provisions (49 CFR 172.102)

: IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.

N41 - Metal construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material.

T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)

TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.

DOT Packaging Exceptions (49 CFR 173.xxx)

: None

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)

: Forbidden

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)

: 30 L

DOT Vessel Stowage Location

: C - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel.

DOT Vessel Stowage Other

: 66 - Stow "separated from" flammable solids

Other information

: No supplementary information available.

### TDG

No additional information available

### Transport by sea

No additional information available

### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Perchloric Acid, 8% w/v

SARA Section 311/312 Hazard Classes

Reactive hazard

Immediate (acute) health hazard

#### Perchloric Acid, 70% w/w (7601-90-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

SARA Section 311/312 Hazard Classes

Immediate (acute) health hazard

Reactive hazard

#### Water (7732-18-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

#### Perchloric Acid, 8% w/v

WHMIS Classification

Class E - Corrosive Material

Class C - Oxidizing Material

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### Perchloric Acid, 70% w/w (7601-90-3)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class C - Oxidizing Material  
Class E - Corrosive Material

### Water (7732-18-5)

WHMIS Classification

Uncontrolled product according to WHMIS classification criteria

### EU-Regulations

No additional information available

### National regulations

#### Perchloric Acid, 70% w/w (7601-90-3)

Listed on the Canadian IDL (Ingredient Disclosure List)

### 15.3. US State regulations

No additional information available

## SECTION 16: Other information

Revision date : 11/19/2015

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Ox. Liq. 1	Oxidizing liquids Category 1
Ox. Liq. 3	Oxidizing liquids Category 3
Skin Corr. 1B	Skin corrosion/irritation Category 1B
H271	May cause fire or explosion; strong oxidizer
H272	May intensify fire; oxidizer
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage

NFPA health hazard

: 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard

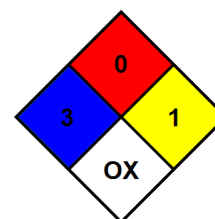
: 0 - Materials that will not burn.

NFPA reactivity

: 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.

NFPA specific hazard

: OX - This denotes an oxidizer, a chemical which can greatly increase the rate of combustion/fire.



HMIS III Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability

: 0 Minimal Hazard - Materials that will not burn

Physical

: 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Personal Protection

: H  
H - Splash goggles, Gloves, Synthetic apron, Vapor respirator

SDS US (GHS HazCom 2012)

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