



your partner in food safety

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Version 1

## 1. IDENTIFICATION

### Product identifier

Product Name Smart-Acid

### Other means of identification

SDS # BIR-070

Product Code I03060

UN/ID No UN1760

### Recommended use of the chemical and restrictions on use

Recommended Use Acid CIP for breweries.

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

#### Supplier Address

Birko Corporation  
9152 Yosemite Street  
Henderson, CO 80640-8027  
www.birkocorp.com

### Emergency telephone number

Company Phone Number Phone: 303-289-1090 or 1-800-525-0476  
Fax: 303-289-1190

Emergency Telephone Chemtrec 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

**Appearance** Colorless to yellow liquid

**Physical state** Liquid

**Odor** Sharp acid odor

### Classification

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1

### Signal Word

Danger

### Hazard statements

Causes severe skin burns and eye damage



**Precautionary Statements - Prevention**

Do not breathe dusts or mists

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

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: Rinse mouth. Do NOT induce vomiting

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other hazards**

Toxic to aquatic life with long lasting effects

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical name	CAS No	Weight-%
Nitric acid	7697-37-2	30-40
Phosphoric Acid	7664-38-2	10-20

\*\*If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.\*\*

**4. FIRST AID MEASURES****Description of first aid measures**

- 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.
- Skin Contact** Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
- Inhalation** Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor/physician.
- Ingestion** Rinse mouth. Do NOT induce vomiting.

**Most important symptoms and effects, both acute and delayed**

- Symptoms** Causes severe skin burns and eye damage.

**Indication of any immediate medical attention and special treatment needed**

- Notes to Physician** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** Not determined.

**Specific Hazards Arising from the Chemical**

Not determined.

**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.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

**Personal Precautions** Use personal protective equipment as required.

**Environmental precautions**

**Environmental precautions** 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 Clean-Up** Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE****Precautions for safe handling**

**Advice on Safe Handling** Do not breathe dusts or mists. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing and eye/face protection.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Store locked up.

**Incompatible Materials** None known based on information supplied.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Exposure Guidelines**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Nitric acid 7697-37-2	STEL: 4 ppm TWA: 2 ppm	TWA: 2 ppm TWA: 5 mg/m <sup>3</sup> (vacated) TWA: 2 ppm (vacated) TWA: 5 mg/m <sup>3</sup> (vacated) STEL: 4 ppm (vacated) STEL: 10 mg/m <sup>3</sup>	IDLH: 25 ppm TWA: 2 ppm TWA: 5 mg/m <sup>3</sup> STEL: 4 ppm STEL: 10 mg/m <sup>3</sup>
Phosphoric Acid 7664-38-2	STEL: 3 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> (vacated) TWA: 1 mg/m <sup>3</sup> (vacated) STEL: 3 mg/m <sup>3</sup>	IDLH: 1000 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup> STEL: 3 mg/m <sup>3</sup>

**Appropriate engineering controls**

**Engineering Controls** Apply technical measures to comply with the occupational exposure limits.

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection** Refer to 29 CFR 1910.133 for eye and face protection regulations.

**Skin and Body Protection** Refer to 29 CFR 1910.138 for appropriate skin and body protection.

**Respiratory Protection** Refer to 29 CFR 1910.134 for respiratory protection requirements.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid		
<b>Appearance</b>	Colorless to yellow liquid	<b>Odor</b>	Sharp acid odor
<b>Color</b>	Colorless to yellow	<b>Odor Threshold</b>	Not determined
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
pH	~1.6 (1% solution)		
Melting point / freezing point	Not determined		
Boiling point / boiling range	Not determined		
Flash point	Not flammable		
Evaporation Rate	Not determined		
Flammability (Solid, Gas)	Liquid-Not applicable		
Flammability Limit in Air			
Upper flammability or explosive limits	Not determined		
Lower flammability or explosive limits	Not determined		
Vapor Pressure	Not determined		
Vapor Density	Not determined		
Relative Density	1.353		
Water Solubility	Not determined		
Solubility in other solvents	Not determined		
Partition Coefficient	Not determined		
Autoignition temperature	Not determined		
Decomposition temperature	Not determined		
Kinematic viscosity	Not determined		
Dynamic Viscosity	Not determined		
Explosive Properties	Not determined		
Oxidizing Properties	Not determined		

## **10. STABILITY AND REACTIVITY**

**Reactivity**

Not reactive under normal conditions.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

None under normal processing.

**Conditions to Avoid**

Keep out of reach of children.

**Incompatible materials**

None known based on information supplied.

#### **Hazardous decomposition products**

None known based on information supplied.

## **11. TOXICOLOGICAL INFORMATION**

#### **Information on likely routes of exposure**

##### **Product Information**

<b>Eye Contact</b>	Avoid contact with eyes.
<b>Skin Contact</b>	Avoid contact with skin.
<b>Inhalation</b>	Do not inhale.
<b>Ingestion</b>	Do not ingest.

##### **Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Nitric acid 7697-37-2	-	-	= 2500 ppm ( Rat ) 1 h = 130 mg/m <sup>3</sup> ( Rat ) 4 h
Phosphoric Acid 7664-38-2	= 1530 mg/kg ( Rat )	= 2740 mg/kg ( Rabbit )	> 850 mg/m <sup>3</sup> ( Rat ) 1 h

#### **Symptoms related to the physical, chemical and toxicological characteristics**

<b>Symptoms</b>	Please see section 4 of this SDS for symptoms.
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#### **Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Skin corrosion/irritation</b>	Causes severe skin burns.
<b>Serious eye damage/eye irritation</b>	Causes severe eye damage.
<b>Carcinogenicity</b>	Nitrate or nitrite ingested under conditions that result in endogenous nitrosation are considered IARC group 2A carcinogens.

Chemical name	ACGIH	IARC	NTP	OSHA
Nitric acid 7697-37-2		Group 2A Group 1		X

#### **Legend**

*IARC (International Agency for Research on Cancer)*  
*Group 2A - Probably Carcinogenic to Humans*  
*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*  
*X - Present*

#### **Numerical measures of toxicity**

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

Oral LD50	6,236.28 mg/kg
Dermal LD50	11,168.20 mg/kg
Gas	54,683.50 mg/L

## **12. ECOLOGICAL INFORMATION**

#### **Ecotoxicity**

Toxic to aquatic life with long lasting effects.

### Component Information

Chemical name	Algae/aquatic plants	Fish	Crustacea
Nitric acid 7697-37-2		72: 96 h Gambusia affinis mg/L LC50	
Phosphoric Acid 7664-38-2		3 - 3.5: 96 h Gambusia affinis mg/L LC50	4.6: 12 h Daphnia magna mg/L EC50

### Persistence/Degradability

Not determined.

### Bioaccumulation

There is no data for this product.

### Mobility

Chemical name	Partition coefficient
Nitric acid 7697-37-2	-2.3

### Other Adverse Effects

Not determined

## 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**

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

### California Hazardous Waste Status

Chemical name	California Hazardous Waste Status
Nitric acid 7697-37-2	Toxic Corrosive Ignitable
Phosphoric Acid 7664-38-2	Corrosive

## 14. TRANSPORT INFORMATION

### Note

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

### DOT

UN/ID No	UN1760
Proper Shipping Name	Corrosive liquid, n.o.s. (Phosphoric acid, Nitric acid)
Hazard class	8
Packing Group	II

### IATA

UN number	UN1760
Proper Shipping Name	Corrosive liquid, n.o.s. (Phosphoric acid, Nitric acid)
Transport hazard class(es)	8
Packing Group	II

**IMDG**

UN number	UN1760
Proper Shipping Name	Corrosive liquid, n.o.s. (Phosphoric acid, Nitric acid)
Transport hazard class(es)	8
Packing Group	II
Marine Pollutant	This material may meet the definition of a marine pollutant

**15. REGULATORY INFORMATION****International Inventories**

Chemical name	TSCA	DSL/NDSL	EINECS/E LINCS	ENCS	IECSC	KECL	PICCS	AICS
Nitric acid	X	X	X	X	X	X	X	X
Phosphoric Acid	X	X	X	X	X	X	X	X

**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**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AICS** - Australian Inventory of Chemical Substances**US Federal Regulations****CERCLA**

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Nitric acid 7697-37-2	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ
Phosphoric Acid 7664-38-2	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

**SARA 313**

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
Nitric acid - 7697-37-2	7697-37-2	30-40	1.0

**CWA (Clean Water Act)**

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Nitric acid	1000 lb			X
Phosphoric Acid	5000 lb			X

**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
Nitric acid 7697-37-2	X	X	X

Phosphoric Acid 7664-38-2	X	X	X
<b>16. OTHER INFORMATION</b>			

<u>NFPA</u>	<b>Health Hazards</b> 3	<b>Flammability</b> 0	<b>Instability</b> 1	<b>Special Hazards</b> OX
<u>HMIS</u>	<b>Health Hazards</b> 3	<b>Flammability</b> 0	<b>Physical hazards</b> 1	<b>Personal Protection</b> J

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**Disclaimer**

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**End of Safety Data Sheet**