



SAFETY DATA SHEET

Date Rev. 08/28/2015

Safety Data Sheet (in compliance with Regulation (EC) 1907/2006, Regulation (EC) 1272/2008 and Regulation (EC) 453/2010)

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

1.1 Product Identifier:

Trade Name (as labeled): 37% Phosphoric Acid

Product Form: Mixture

Part/Item Number: 501-0103-002; 501-0105-002; 501-0108-002; 501-0203-002
501-0205-002; 501-0208-002;

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against:

Recommended Use: Dental Etching Solution

Restrictions on Use: For Professional Use Only

1.3 Details of the Supplier of the Safety Data Sheet:

Manufacturer / Supplier Name: RMO, INC.

Manufacturer / Supplier Address: 650 WEST COLFAX AVENUE
DENVER, CO 80204 U.S.A

Manufacturer / Supplier Telephone Number: (303) 592-8200 / (800) 525-6375

1.4 Emergency Telephone Number:

Chemtrec

Emergency Contact Telephone Number: (800) 424-9300 / (703) 527-3887
001-703-527-3887 (Outside USA)

2. HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture:

GHS Classification:		
Health	Environmental	Physical
Corrosive to Metals 1 – H290 Skin Corrosion 1B – H314	Not Hazardous	No Physical Hazards

EU Classification: Corrosive (C), R34



2.2 Label Elements:

Hazard pictograms (GHS-US)

6. ACCIDENTAL RELEASE MEASURES

Signal Word: Danger

Hazard Phrases	Precautionary Phrases
H290 – May be corrosive to metals H314 - Causes severe skin burns and eye damage	P264 – Wash thoroughly after handling P280 – Wear protective gloves/protective clothing/eye protection/ face protection P390 - Absorb spillage to prevent material damage. P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P363 - Wash contaminated clothing before reuse. P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P310 - Immediately call a POISON CENTER or doctor/physician. P321 - Specific treatment (see supplemental first aid instructions on this label). P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P501 - Dispose of contents and container in accordance with local and national regulations.

2.3 Other Hazards: Under United States Regulations (29 CFR 1910.1200 – Hazard Communication Standard), this product is considered hazardous.

2.4 Unknown acute toxicity (GHS-US): No data available.

Canada

According to WHMIS

2.1 Classification of the Substance or Mixture:

WHMIS Corrosive - E

2.2 Label Elements:

WHMIS Corrosive - E



2.3 Other Hazards: In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances: Not Applicable

3.2 Mixture:

Hazardous Components	C.A.S. #	Classification	WT %
Phosphoric Acid	7664-38-2	EU DSD/DPD: Annex I: C; R34 EU CLP: Annex VI: Skin Corr. 1B, H314, Corr. to Metals 1, H290 OSHA HCS 2012: Skin Corr. 1B, H314, Corr. to Metals 1, H290	35.0-39.0%

The exact concentration is being withheld as a trade secret.



Refer to Section 16 for the full text of the GHS and EU Classifications.

4. FIRST AID MEASURES

4.1 Description of First Aid Measures:

Eye	In case of contact with substance, immediately flush eyes with running water for at least 15 minutes. Seek immediate medical attention, preferably with an ophthalmologist. If the physician is not immediately available, eye irrigation should be continued for an additional 15 minutes. If it is necessary to transport the patient to a physician and the eye needs to be bandaged, use a dry sterile cloth pad and cover both eyes.
Skin	For minor skin contact, avoid spreading material on unaffected skin. In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Wash skin with soap and water. Remove and isolate contaminated clothing and shoes. Wash contaminated clothing before reuse.
Inhalation	Administer oxygen if breathing is difficult. Do not use mouth-to-mouth method if victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Give artificial respiration if victim is not breathing. Move victim to fresh air.
Ingestion	If swallowed give 2-3 glasses of water if victim is conscious and alert. Do not give anything by mouth to an unconscious person. Do NOT induce vomiting. Obtain medical attention immediately if ingested. Do not use mouth-to-mouth method if victim ingested the substance. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Persons attending the victim should avoid direct contact with heavily contaminated clothing and vomitus. Wear impervious gloves while decontaminating skin and hair.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed:

Refer to Section 11 – Toxicological Information

4.3 Notes to Physicians (Treatment, Testing, and Monitoring):

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

5. FIRE-FIGHTING MEASURES





5.1 Extinguishing Media: Not combustible. Use extinguishing media suitable for surrounding fire.

5.2 Special Hazards Arising from the Substance or Mixture:

Not combustible. Under fire conditions, toxic, corrosive fumes are emitted.

5.3 Advice for Fire-Fighters:



Fire Fighting Procedures:	General: Evacuate all personnel; use protective equipment for fire-fighting.
Precautions for Fire Fighters:	Firefighters should wear full emergency equipment and approved positive pressure self-containing breathing apparatus.

Recommended Protective Equipment for Fire Fighters:			
EYES/FACE	HANDS	RESPIRATORY	THERMAL
			

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

Remove all ignition sources such as open flames, spark producing equipment, pilot lights, etc. Avoid contact with skin, eyes or clothing. Wear appropriate protective clothing as described in Section 8.

Recommended Personal Protective Equipment for Containment and Clean-up:

EYES/FACE	HANDS	RESPIRATORY	SKIN
			

6.2 Environmental Precautions:

Prevent entry into sewers and waterways. Report releases as required by local, state, and national authorities. Avoid contact with skin, eyes or clothing. Wear appropriate protective clothing as described in Section 8.

6.3 Methods and Material for Containment and Cleaning up:

Exercise caution during neutralization as considerable heat may be generated. Neutralize spill area with soda ash, sodium bicarbonate or lime. Flush neutralized spill with copious amounts of water.

6.4 Reference to Other Sections:

Refer to Section 8 for Personal Protective Equipment and Section 13 for Disposal information.

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling:

Do not get on skin or in eyes. Avoid breathing vapors and mists. Do not ingest. Handle and open container with care. Use only with adequate ventilation. Use caution when combining with water; DO NOT add water to corrosive liquid, ALWAYS add corrosive liquid to water while stirring to prevent release of heat, steam and fumes. This product reacts violently with bases liberating heat and causing spattering.

7.2 Conditions for Safe Storage, Including Any Incompatibilities:

Store in a cool, dry, well-ventilated area away from heat, direct sunlight and all sources of ignition. Store away from incompatible materials. Keep container closed to prevent contamination.

7.3 Specific End Use (s): Refer to Section 1.2 – Relevant identified uses.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters:

Exposure Limits / Guidelines						
Phosphoric Acid (7664-38-2)	Result	ACGIH	Argentina	Australia	Austria	Belgium
	STELs	3mg/m3 STEL [CMP-CPT]	3mg/m3 STEL	3mg/m3 STEL	2 mg/m3 STEL [KZW] (4 X 15 min)	2 mg/m3 STEL
	TWAs	1mg/m3 TWA	1mg/m3 TWA [CMP]	1mg/m3 TWA	Not established	1mg/m3 TWA
	MAKs	Not established	Not Established	Not Established	1mg/m3 TWA [TMW]	Not Established
Exposure Limits / Guidelines (Con't.)						
Phosphoric Acid (7664-38-2)	Result	China	Czech Republic	Denmark	Egypt	Finland
	STELs	3mg/m3 STEL	Not established	Not established	3mg/m3 STEL	2mg/m3 STEL
	TWAs	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA	Not established	1mg/m3 TWA
	Ceilings	Not established	2mg/m3 Ceiling	Not established	Not established	Not established
Exposure Limits / Guidelines (Con't.)						
Phosphoric Acid (7664-38-2)	Result	France	Germany DFG	Germany TRGS	Greece	Hong Kong
	STELs	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL
	TWAs	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA
	MAKs	Not established	Not established	Not established	Not established	Not established
Exposure Limits / Guidelines (Con't.)						
Phosphoric Acid (7664-38-2)	Result	Hungary	India	Indonesia	Ireland	Israel
	STELs	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL
	TWAs	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA
	MAKs	Not established	Not established	Not established	Not established	Not established
Exposure Limits / Guidelines (Con't.)						
Phosphoric Acid (7664-38-2)	Result	Italy	Japan	Korea	Malaysia	Mexico
	STELs	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL
	TWAs	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA
	MAKs	Not established	Not established	Not established	Not established	Not established
Exposure Limits / Guidelines (Con't.)						
Phosphoric Acid (7664-38-2)	Result	Netherlands	New Zealand	NIOSH	Norway	OSHA
	STELs	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL
	TWAs	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA
	MAKs	Not established	Not established	Not established	Not established	Not established
Exposure Limits / Guidelines (Con't.)						
Phosphoric Acid (7664-38-2)	Result	Philippines	Poland	Portugal	Singapore	South Africa
	STELs	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL
	TWAs	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA
	MAKs	Not established	Not established	Not established	Not established	Not established
Exposure Limits / Guidelines (Con't.)						

	Result	Spain	Sweden	Switzerland	Taiwan	United Kingdom
	STELs	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL	3mg/m3 STEL
	TWAs	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA	1mg/m3 TWA
	MAKs	Not established	Not established	Not established	Not established	Not established

8.2 Exposure Controls:

Appropriate Engineering Controls: Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual Protection Measures (PPE)



Respiratory: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face: Wear face shield and eye protection. An emergency eye wash must be readily accessible to the work area. Ensure safety shower is available near all areas of bulk storage, delivery and use.

Hands: Wear protective gloves selected with regard to both durability as well as permeation resistance.

Skin/Body: Wear protective clothing.

Recommended Personal Protective Equipment

EYES/FACE	HANDS	RESPIRATORY	SKIN
			

ACGIH = American Conference of Governmental Industrial Hygiene

PEL = Permissible Exposure Level determined by the Occupational Safety and Health Administration (OSHA)

MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration

STEL = Short Term Exposure Limits are based on 15-minute exposures

MSHA = Mine Safety and Health Administration

STEV = Short Term Exposure Value

NIOSH = National Institute of Occupational Safety and Health

NAB = Threshold Values (Indonesia)

OEL = Occupational Exposure Limit(s)

TWAEV = Time-Weighted Average Exposure Value

OSHA = Occupational Safety and Health Administration

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties:

Physical state:	Gel	Relative density:	1.25 to 1.30g/cc @25°C/77°F
Appearance:	Blue, Homogeneous Gel	Melting Point:	Not determined
Odor:	None	Boiling Point:	Not determined
Odor threshold:	Not determined	Solubility in Water:	Partially Soluble
Viscosity:	Not determined	pH:	1.00-1.50

10. STABILITY AND REACTIVITY

9.2 Other Information: None available

10.1 Reactivity: Stable at ambient temperature and under normal conditions of use

10.2 Chemical Stability: Stable at standard temperature and pressure.

10.3 Possibility of Hazardous Reactions: None known.

10.4 Conditions to Avoid: Keep away from heat, sparks, incompatible materials, flames and other sources of ignition.

10.5 Incompatible materials: High temperatures, strong oxidizing agents. Keep away from sunlight and open flames.

10.6 Hazardous Decomposition Products: Oxides of phosphorus.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Chronic Effects:	No chronic health effects reported.
Target Organs:	No target organs reported.
Carcinogenicity	Not classified.
NTP:	No
IARC:	No

12. ECOLOGICAL INFORMATION

12.1 Toxicity: No data available

12.2 Persistence and Degradability: No data available

12.3 Bio-accumulative Potential: No data available

12.4 Mobility in Soil: No data available

12.5 Results of PBT and vPvB Assessment: No data available

12.6 Other Adverse Effects: No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

Regulations: Dispose in accordance with all national and local regulations.

Waste Treatment Recommendations: Dispose in accordance with national and local regulations.

US EPA: This material is not considered a hazardous waste under the United States Resource Conservation and Recovery Act when disposed.

14. TRANSPORT INFORMATION

14.1. UN number

UN 1805

14.2. UN proper shipping name

Phosphoric Acid Solution

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

III

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

None known

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not relevant

15. REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture:**Federal and State Regulations:**

Illinois toxic substances disclosure to employee act: Phosphoric acid

Illinois chemical safety act: Phosphoric acid

New York release reporting list: Phosphoric acid

Rhode Island RTK hazardous substances: Phosphoric acid

Pennsylvania RTK: Phosphoric acid

Minnesota: Phosphoric acid

Massachusetts RTK: Phosphoric acid

Massachusetts spill list: Phosphoric acid

New Jersey: Phosphoric acid

New Jersey spill list: Phosphoric acid

Louisiana spill reporting: Phosphoric acid

California Director's list of hazardous substances: Phosphoric acid

SARA 302/304/311/312 extremely hazardous substances: Phosphoric Acid

SARA 313 toxic chemical notification and release reporting: Phosphoric Acid

CERCLA: Hazardous Substances: Phosphoric Acid, 5000lbs.

California Proposition 65:

No

WHMIS Canada:

Class E - corrosive liquid.

DSCL (EEC):

R34 – Causes burns.

15.2 Chemical Safety Assessment: None required.

16. OTHER INFORMATION

HMIS Hazard Rating:

Health: 3	Flammability: 0	Reactivity: 0
Health Hazard	3	
Fire Hazard	0	
Reactivity	0	

Full text of Classification abbreviations used in Section 2 and 3:

H290	May be corrosive to metals
H314	Causes severe burns and eye damage; Skin Corrosion 1B
Xi	Irritants
R34	Causes burns.
S36	Wear suitable protective clothing.
S37	Wear suitable gloves.
S39	Wear eye/face protection.

Supersedes: November 17, 2008

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Revision Summary: August 28, 2015: Converted MSDS to Reach SDS. Updated all sections.

Data Sources: US NLM ChemID Plus and HSDB, Substance SDS for components, IUCLID Dataset EU Chemical Bureau, ESIS, Country websites for occupational exposure limits.

Manufacturer disclaimer:

FOR DENTAL USE ONLY. The information and recommendations are taken from sources (raw material MSDS(s), SDS(s) and manufacturers knowledge) believed to be accurate; however, the manufacturer makes no warranty with respect to the accuracy of the information or the suitability of the recommendation and assumes no liability to any user thereof. Each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.