



<b>HEALTH</b>	*	<b>3</b>
<b>FLAMMABILITY</b>		<b>0</b>
<b>PHYSICAL HAZ.</b>		<b>0</b>
<b>PPE</b>	<b>X</b>	



Printed: 04/05/2010  
 Revision: 04/05/2010  
 Supersedes Revision: 01/10/2006  
 Date Created: 07/12/2004

## 1. Product and Company Identification

**Product Code:** 5709  
**Product Name:** SIFCO Process Nickel-Phosphorus  
**Manufacturer Information**  
**Company Name:** SIFCO Applied Surface Concepts  
 Division of SIFCO Industries, Inc.  
 5708 E. Schaaf Road  
 Independence, OH 44131  
**Phone Number:** (216)524-0099  
**Fax Number:** (216)524-6331  
**Emergency Contact:** CHEMTREC (United States) (800)424-9300  
**Information:** CHEMTREC ( International-Collect) +1 (703)527-3887  
**Web site address:** <http://www.SIFCOASC.com>  
**Email address:** [info@sifcoasc.com](mailto:info@sifcoasc.com)

## 2. Hazards Identification

### Emergency Overview

Green liquid with no odor.

Danger! Causes severe burns. Cancer Hazard. May cause sensitisation by skin contact. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Corrosive to skin, eyes, and respiratory system. Emergency Response Guidebook 154

**Route(s) of Entry:** Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

### Health Hazards (Acute and Chronic)

**EYE:** May cause eye irritation, burns possible.

**SKIN CONTACT:** May cause skin irritation. May cause skin sensitization, and allergic reaction (Nickel rash).

**INHALATION:** Vapor or mist may be harmful if inhaled. May cause sneezing, nasal discharge, coughing, headaches, dizziness, nausea, fatigue or difficulty in breathing. Irritating to the eyes, nose, throat, and lungs.

**INGESTION:** Harmful if swallowed. Can irritate mouth, throat, and stomach. May cause liver damage with jaundice, kidneys and gastrointestinal damage.

**CHRONIC EFFECTS:** Prolonged or repeated exposure may cause damage to skin, eyes, respiratory system and teeth. May cause severe and delayed health effects such as inflammation of the lungs and chemical bronchitis.

Prolonged exposure to nickel and nickel compounds may increase the possibility of nasal sinus and lung cancer.

### Signs and Symptoms Of Exposure

Dependant on route(s) of entry. See section above for details.

### Medical Conditions Generally Aggravated By Exposure

Preexisting skin and eye conditions; respiratory system disorders; preexisting sensitization to nickel.

## 3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	Formula	RTECS #
1. Nickel Hydroxide	12054-48-7	5.0 -10.0 %	H2NiO2	QR7040000
2. Phosphorous acid, ortho	13598-36-2	10.0 -20.0 %	H3PO3	SZ6400000
3. Water	7732-18-5	70.0 -85.0 %	H2O	ZC0110000

## 4. First Aid Measures

### Emergency and First Aid Procedures

First aid providers must take proper precautions for their own safety before entering contaminated areas to assist chemical accident victims and handling their contaminated clothing and equipment. Another person should immediately call the Emergency Medical Service, 911-Operator, Hospital, Physician, Ophthalmologist or Poison Control Center, as applicable. Give the following information: Location of the accident, your phone number, description of the accident, name of chemical agent and product, number and condition of casualties, what is being done for the victims. Stay on the phone until the other party hangs up! Remove victim from contaminated area to a clean, quiet, ventilated area. Calm and reassure him, keep him warm.

**EYES:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes.

**SKIN:** Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly decontaminate (or discard) clothing and shoes.

**INHALATION:** Remove to fresh air. Lay victim down, legs raised. Loosen tight clothing, cover with a blanket. If not breathing, give artificial respiration.

**INGESTION:** DO NOT induce vomiting, unless advised by EMS. Give victim large quantities of water to drink. Never give anything by mouth to an unconscious person.

## 5. Fire Fighting Measures

<b>Flammability Classification:</b>	Material Will Not Burn
<b>Flash Pt:</b>	NA
<b>Explosive Limits:</b>	LEL: None                      UEL: None
<b>Autoignition Pt:</b>	NA

### Special Fire Fighting Procedures

Use NIOSH/MSHA approved positive-pressure self-contained breathing apparatus. Structural fire fighters' protective clothing may not provide adequate protection.

### Unusual Fire and Explosion Hazards

Containers can build up pressure and burst if exposed to heat (fire). Water runoff can cause environmental damage. Dike area for later disposal.

### Suitable Extinguishing Media

Use fire-extinguishing media appropriate for surrounding materials.

### Unsuitable Extinguishing Media

## 6. Accidental Release Measures

### Steps To Be Taken In Case Material Is Released Or Spilled

Do not touch or walk through spilled material. Isolate hazard area and keep people away. Notify your facility emergency coordinator. Eliminate all sources of ignition. Provide maximum ventilation. Do not release into soil, sewers, or natural bodies of water. Wear proper personal protective equipment (PPE). Absorb in vermiculite, dry sand or earth and place into container. Release of a reportable quantity (RQ) requires notification of proper authorities. Dispose of according to local, state, and federal regulations.

## 7. Handling and Storage

### Precautions To Be Taken in Handling

Use "buddy system" when working with chemicals. Do not get in eyes, on skin, on clothing. Do not breathe vapor, mist or gas. Use with adequate ventilation. Wash thoroughly after handling. Triple rinse container clean before discarding. Put nothing else in this container.

### Precautions To Be Taken in Storing

Keep container tightly closed in upright position. Store at 60-90F away from incompatible materials and physical hazards. Do not remove or deface container labels.

## 8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Nickel Hydroxide	12054-48-7	1 mg/m <sup>3</sup>	9.4 mg/m <sup>3</sup>	9 mg/m <sup>3</sup>
2. Phosphorous acid, ortho	13598-36-2	35 mg/m <sup>3</sup>	17 mg/m <sup>3</sup>	18 mg/m <sup>3</sup>
3. Water	7732-18-5			

### Respiratory Equipment (Specify Type)

If engineering controls are not feasible, the respiratory protection program must comply with OSHA 29 CFR 1910.134.

### Eye Protection

Face shield and safety glasses w/side shields or splash-proof chemical goggles. Do not wear contact lenses. Eye wash station, safety shower, washing facilities near work area.

### Protective Gloves

Nitrile, neoprene, vinyl, latex gloves.

### Other Protective Clothing

Impervious boots, apron, protective clothing as required by job conditions.

### Ventilation

Local exhaust ventilation is required to meet the permissible exposure limits (PEL) during the use of this product.

### Work/Hygienic/Maintenance Practices

DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Wash promptly with soap & water if skin becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.

## 9. Physical and Chemical Properties

<b>Physical States:</b>	[ ] Gas	[ X ] Liquid	[ ] Solid
<b>Melting Point:</b>	<= 32.00 F (0.0 C)		
<b>Boiling Point:</b>	>= 212.00 F (100.0 C)		
<b>Autoignition Pt:</b>	NA		
<b>Flash Pt:</b>	NA		
<b>Explosive Limits:</b>	LEL: None	UEL: None	
<b>Specific Gravity (Water = 1):</b>	1.181 - 1.185		
<b>Evaporation Rate (vs Butyl Acetate=1):</b>	< 1		
<b>Solubility in Water:</b>	Complete		
<b>Percent Volatile:</b>	N.A.		
<b>pH:</b>	1.2 - 1.8		

### Appearance and Odor

Green, odorless liquid.

## 10. Stability and Reactivity

**Stability:** Unstable [ ] Stable [ X ]

### Conditions To Avoid - Instability

Stable under normal ambient conditions.

### Incompatibility - Materials To Avoid

Avoid contact with reactive metals, strong bases, oxidizers, cyanides, sulfides

### Hazardous Decomposition Or Byproducts

Diatomic Hydrogen, Nickel, Phosphorous Acid

**Possibility of Hazardous Reactions:** Will occur [ ] Will not occur [ X ]

**Conditions To Avoid - Hazardous Reactions**

Avoid excessive heat for prolonged periods of time.

**11. Toxicological Information**

**HEALTH WARNINGS**

Known carcinogen for humans.

**Carcinogenicity/Other Information**

ACGIH Known Human Carcinogen (Class A)

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Nickel Hydroxide	12054-48-7	Known	2A	A1	
2. Phosphorous acid, ortho	13598-36-2				
3. Water	7732-18-5				

**Carcinogenicity:** NTP? Yes IARC Monographs? Yes OSHA Regulated? Yes

**12. Ecological Information**

Dangerous for the environment: May cause long-term adverse effects in the aquatic environment.

**13. Disposal Considerations**

**Waste Disposal Method**

Ship to approved treatment/disposal facility. Dispose of according to local, state, and federal regulations. Follow the applicable regulations for disposal of empty containers and rinsate. The disposal information applies to the material as manufactured. Contamination may affect the disposal requirements. The responsibility for proper waste disposal is with the generator of the waste.

**RCRA Waste ID Code:** D002

**14. Transport Information**

**LAND TRANSPORT (US DOT)**

**DOT Proper Shipping Name** UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Phosphorus Acid), 8, PG III - ERG #154

**DOT Hazard Class:** 8  
**DOT Hazard Label:** CORROSIVE  
**UN/NA Number:** UN3264  
**Packing Group:** III

**MARINE TRANSPORT (IMDG/IMO)**

**UN Number:** 3264  
**Packing Group:** III  
**Marine Pollutant:** No

**15. Regulatory Information**

**US EPA SARA Title III**

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Nickel Hydroxide	12054-48-7	No	Yes 10 LB	Yes-Cat. N495	No
2. Phosphorous acid, ortho	13598-36-2	No	No	No	No
3. Water	7732-18-5	No	No	No	No

**US EPA CAA, CWA, TSCA**

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Nickel Hydroxide	12054-48-7	HAP, ODC ()	No	Inventory	No
2. Phosphorous acid, ortho	13598-36-2	HAP, ODC ()	No	Inventory	No
3. Water	7732-18-5	HAP, ODC ()	No	Inventory	No

**SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:**

- Sec.302:** EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. \* indicates 10000 LB TPQ if not volatile.
- Sec.304:** EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. \*\* indicates statutory RQ.
- Sec.313:** EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
- Sec.110:** EPA SARA 110 Superfund Site Priority Contaminant List

**TSCA (Toxic Substances Control Act) Lists:**

- Inventory:** Chemical Listed in the TSCA Inventory.
- 5A(2):** Chemical Subject to Significant New Rules (SNURS)
- 6A:** Commercial Chemical Control Rules
- 8A:** Toxic Substances Subject To Information Rules on Production
- 8A CAIR:** Comprehensive Assessment Information Rules - (CAIR)
- 8A PAIR:** Preliminary Assessment Information Rules - (PAIR)
- 8C:** Records of Allegations of Significant Adverse Reactions
- 8D:** Health and Safety Data Reporting Rules
- 8D TERM:** Health and Safety Data Reporting Rule Terminations
- 12(b):** Notice of Export

**Other Important Lists:**

- CWA NPDES:** EPA Clean Water Act NPDES Permit Chemical
- CAA HAP:** EPA Clean Air Act Hazardous Air Pollutant
- CAA ODC:** EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
- CA PROP 65:** California Proposition 65

**International Regulatory Lists:**

**EPA Hazard Categories:**

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

- Yes [ ] No Acute (immediate) Health Hazard
- Yes [ ] No Chronic (delayed) Health Hazard
- [ ] Yes  No Fire Hazard
- [ ] Yes  No Sudden Release of Pressure Hazard
- [ ] Yes  No Reactive Hazard

**Regulatory Information**

**U.S. FEDERAL REGULATIONS:**

- Supplier Notification about toxic Chemicals.

SIFCO Applied Surface Concepts is required to inform you, that this product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372, if specified annual thresholds are met or exceeded.

Toxic Chemical	CAS #	Wt.%(Maximum)
Nickel Hydroxide	- 12054-78-7	(10%)
Phosphorus Acid	- 13598-36-2	- (20%)

Your other suppliers of trade name products or mixtures containing section 313 chemicals must also notify you. If you repackage or otherwise redistribute this product to industrial customers you are required to furnish similar notification to them.

- CERCLA and EPCRA:

Threshold Planning Quantity: Not Applicable  
(Release) Reportable Quantity: > 38 Liters  
Extremely Hazardous Substance: None

3. EPCRA Hazard Categories:

Immediate (Acute) Health: Yes  
Delayed (Chronic) Health: Yes  
Fire: No  
Sudden release of Pressure: No  
Reactivity: No

4. TSCA Statement.

All ingredients of this product are listed under the Toxic Substances Control Act (TSCA).

5. ODS Certification.

This product does not contain and is not manufactured with Ozone Depleting Substances (ODS).

6. VOC Certification.

This product does not contain any Volatile Organic Compounds (VOC).

7. PCB Certification.

This product does not contain any polychlorinated biphenyls (PCB).

STATE REGULATIONS:

California Prop. 65:

**WARNING!** This product contains detectable amounts of chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

INTERNATIONAL REGULATIONS

WHMIS Classification: D2-A, E

## 16. Other Information

### Company Policy or Disclaimer

**DISCLAIMER:**

This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.