



SKASOL INCORPORATED

1696 West Grand Avenue, Oakland, CA 94607-1607 Tel (510) 839-1000 - Fax (510) 839-1090
Commercial and Industrial Water Treatment Programs Since 1927

Product Information:

Trade Name (as labeled):	SKASOL 461
Manufacturer's Name	Skasol Incorporated
Address (complete mailing address):	1696 West Grand Avenue Oakland, California 94607-1607
24 Hour Emergency Telephone	(800) 424-9300
Information Telephone	(510) 839-1000
Date prepared or revised	January 1, 1999
Name of preparer	Jessica Hansen

Hazardous Ingredients:

Chemical Name	CAS Number	Percent	Limits in Air	(give units)	
			ACGIH TLV	OSHA PEL	Other (specify)
2-Phosphonobutane-1,2,4-Tricarboxylic Acid	37971-36-1	<20%	not established		

Physical Properties:

Vapor Density	not available	Melting Point or Range	not applicable
Specific Gravity	1.05	Boiling Point or Range, °F	218
Solubility in Water	complete	Evaporation Rate	not available
Vapor pressure	not available		
Appearance and Odor	Clear amber, organic odor		
How to detect this substance	Low pH will cause irritation		

Fire and Explosion:

Flash point, °F (give method)	none
Auto ignition temperature, °F	none

Flammable limits in air, volume %	none	lower (LEL)		upper (UEL)	
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Fire extinguishing materials:

Water	X	Foam	X	CO ₂	X	Dry Chemical	X	Other	
Special fire fighting procedures:	Wear full protective clothing and respiratory protection								
Unusual fire and explosion hazards:	None								

Health Hazard Information:

Symptoms of overexposure for each potential route of exposure.

Inhaled:	Mist or liquid will cause major irritation of the respiratory tract. Large amounts will cause burning from acidic contents
Contact with skin or eyes:	Causes severe burning to eyes. Skin is more resistant, but prolonged exposure can cause irritation.
Absorbed through skin:	Not absorbed
Swallowed:	Will cause burning damage to mouth, esphagus, stomach, etc

HEALTH HAZARD

4. Deadly
3. Extreme Hazard
2. Hazardous
1. Slightly Hazardous
0. Normal Material

SPECIFIC HAZARD

4. Oxidizer
3. Acid
2. Alkali
1. Corrosive
0. Use no water

FIRE HAZARD

4. Below 73 degree F (Boiling pt. below 100 degree F)
3. Below 73 degree F (Boiling pt. at/above 100 degree F and/or at/above 73 degree F not exceeding 100 degree F)
2. Above 100 degree F not exceeding 200 degree F
1. Above 100 degree F
0. Will not burn

REACTIVITY

4. May detonate
3. Shock and heat may detonate
2. Violent chemical change
1. Unstable if heated
0. Stable

Health Hazard	2
Fire Hazard	0
Reactivity Hazard	1
Specific Hazard	3



Health Hazard Information (continued):

Health effects or risks from exposure:

Acute	2-Phosphonobutane-1,2,4-Tricarboxylic Acid will cause burns with acute exposure
Chronic	Same as acute, but with milder symptoms

First Aid Emergency Procedures:

Eye Contact	Immediately flush with plenty of water, raising eyelids often to help irrigation and continue for at least 15 minutes. Get medical assistance.
Skin Contact	Flush with plenty of water. Remove contaminated clothing. If skin is sticky, acidity is still present. Continue flushing until stickiness is gone.
Inhaled	Remove to fresh air. If not breathing give artificial respiration (preferably mouth to mouth). Call a physician or poison control center.
Swallowed	If conscious drink large quantities of water, milk or sodium bicarbonate. Do not induce vomiting. Get medical attention. Never give anything by mouth to an unconscious person.

Suspected cancer agent?

<input checked="" type="checkbox"/>	No: this product's ingredients are not found in the lists below.
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<input type="checkbox"/>	Federal OSHA	<input type="checkbox"/>	National Toxicology Program	<input type="checkbox"/>	International Assoc. For Research On Cancer
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Medical Conditions Aggravated By Exposure	Not Known
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Reactivity Data:

Stability:

<input checked="" type="checkbox"/>	Stable	<input type="checkbox"/>	Unstable
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Conditions to avoid:	Do not mix with strong bases
Incompatibility (materials to avoid):	Strong bases
Hazardous decomposition products:	heat

Hazardous polymerization:	<input type="checkbox"/>	May occur	<input checked="" type="checkbox"/>	will not occur
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Conditions to avoid:	Not known
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Spill, Leak and Disposal Procedures:

Spill response procedures:	Dike area to contain the spill. Small spills may be flushed and diluted with lots of water and washed to a sewer connected to a waste treatment plant.
Preparing wastes for disposal:	Larger spills should be contained and neutralized with dilute acid to a neutral pH (6.0 - 9.0) before washing with plenty of water to a sewer connected to a waste treatment plant. Any DOT container is suitable for temporarily holding neutralized waste.

Special Handling Information:

Ventilation and Engineering Controls:	Local exhaust ventilation should be sufficient to minimize employee exposure to mist below OSHA PEL
Respiratory Protection:	When conditions require it, use a respirator approved by NIOSH/MSHA with a dust/mist filter. Respiratory protection programs must meet or exceed the requirements of Title 29 CFR 1910.134
Eye Protection:	Close fitting chemical safety goggles with a face shield if needed.
Gloves:	Nitrile, neoprene or natural rubber.
Other Clothing and equipment	Rubber boots with safety toes, rubber aprons, plastic hard hats should be used when necessary to prevent skin contact.
Work practices, hygienic practices:	Protective clothing and use of equipment must be in accordance with Title 29 CFR Sections 1910.132 and 1910.133
Other Handling and Storage Needs:	Provide emergency eye wash stations and emergency shower facilities near use and handling areas.
Measures during Maintenance:	Chemical feed pumps should be routinely washed out with water. Plastic tubing and fittings should be frequently inspected for leaks and clogs. As with all automatic equipment, be certain that the power is disconnected before performing any adjustments or repairs. Use all above precautions.