

LidoChem, Inc.
 20 Village Court
 Hazlet, NJ 07730
 Phone#:(732) 888 8000
 Fax#: (732) 264 2751
 email: info@lidochem.com

MATERIAL SAFETY DATA SHEET

MSDS#:	850
Product Code:	NUTROL
Date Printed:	02/12/04
Review/Revision Date:	01/15/02

SECTION I - General Information And Chemical Product Identification

Trade Name:	NUTROL
Chemical Name:	Monopotassium Phosphate
Chemical Formula:	KH ₂ PO ₄
Chemical Family:	Potassium Phosphates
Synonyms:	Potassium Phosphate, Monobasic; Potassium Biphosphate
CAS#:	7778-77-0
D.O.T. Shipping Name:	Monopotassium Phosphate

SECTION II - Composition/information On Ingredients

CAS#:	Common Name:	ACGIH/PPM		OSHA/PPM	
		TWA	STEL	PEL	% by Wt.
7778-77-0	Monopotassium Phosphate	5 mg / cu	5 mg / cu	none	100%

SECTION III - Hazard(s) Identification

Route(s) of Entry:	Inhalation, Ingestion and Dermal
--------------------	----------------------------------

Emergency Overview

Not considered a hazardous product. Irritating to skin and eye.
 Abdominal cramping, etc. on ingestion
 Odorless, white powder solid.
 Firefighters should wear full-face, self contained breathing apparatus and impervious protective clothing.
 Product is not flammable or reactive.

Potential Health Effects:

Acute Eye: May cause irritation
 Acute Skin: Skin absorption not likely. May cause irritation, on prolonged contact.
 Acute Inhalation: May cause upper respiratory tract irritation.
 Acute Ingestion: Ingestion of large quantities may cause irritation, nausea, vomiting, diarrhea, abdominal cramps.

LidoChem, Inc.
20 Village Court
Hazlet, NJ 07730
Phone#:(732) 888 8000
Fax#: (732) 264 2751
email: info@lidochem.com

MATERIAL SAFETY DATA SHEET	
MSDS#:	850
Product Code:	NUTROL
Date Printed:	02/12/04
Review/Revision Date:	01/15/02

Signs & Symptoms Of Exposure:

Acute: May cause irritation to the eyes, skin, respiratory tract and digestive tract.
Chronic: This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogen.

SECTION IV - First Aid Information

Ingestion:

If victim is conscious and alert, give 2-3 glasses of water to drink and induce vomiting by touching back of throat with a finger. **Never give anything to eat or drink to someone who is unconscious, having convulsions, or unable to swallow.** Seek immediate medical attention. Do not leave victim unattended. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

Eyes:

Flush eyes with large quantities of running water for a minimum of 15 minutes. If victim is wearing contact lenses, remove them. Hold eyelids apart during the flushing to ensure rinsing of entire surface of the eye and lids with water. DO NOT let victim rub eye(s). Do not attempt to neutralize with chemical agents. Oils/ointments should not be used at this time. Get medical attention if eye irritation occurs.

Skin:

In case of contact, immediately wash with plenty of soap and water for at least 15 minutes. Seek medical attention. Remove contaminated clothing and shoes before reuse or discard if they cannot be thoroughly cleaned.

Inhalation:

Remove to fresh air. If breathing becomes difficult, oxygen may be given, preferably with a physician's advice. If not breathing, give artificial respiration. Get medical attention.

SECTION V - Fire And Explosion Data

NFPA Hazard Ratings:	0 = minimal	1 = slight	2 = moderate	3 = serious	4 = severe	N/R = Not Rated
Health: 1	Fire: 0	Reactivity: 0	Special:	N/a		
Flash Point:	N/A	Methods Used:	N/A			
Flammable Limits:	N/A	Lel:	N/A	Uel:	N/A	
Autoignition Temp:	N/A					

LidoChem, Inc.
 20 Village Court
 Hazlet, NJ 07730
 Phone#:(732) 888 8000
 Fax#: (732) 264 2751
 email: info@lidochem.com

MATERIAL SAFETY DATA SHEET

MSDS#:	850
Product Code:	NUTROL
Date Printed:	02/12/04
Review/Revision Date:	01/15/02

Extinguisher Media

Not combustible. Use extinguishing method suitable for surrounding fire.

Special Fire Fighting Procedures

Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Keep unnecessary people away, isolate hazard area and deny entry. Evacuate residents who are downwind of fire. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards

Not combustible.

Hazardous Combustion Products:

None.

Emergency Response Guidebook Information:

None.

Section VI- Accidental Release Measures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Wear appropriate protective gear for the situation. Dike or retain dilution water or water from fire fighting for later disposal. Sweep or vacuum up and place in a n appropriate closed container. Clean up residual material by washing area with water and detergent. Runoff from fire control or dilution water may cause pollution. Large spills should be handled according to a predetermined plan.

Section VII- Handling and Storage

Handling and Storage

Avoid direct or prolonged contact with skin and eyes. Keep containers closed when not being used. This product is hygroscopic and tends to cake on storage. Store in an area that is cool and dry. Recommended container material: stainless steel. Container material to avoid: brass.

Section VIII - Exposure Control and Personal Protection

Skin Protection

Skin contact should be minimized through use of gloves and suitable long sleeved clothing (i.e., shirts and pants). Consideration must be given both to durability as well as permeation resistance.

Respiratory Protection

When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the latest OSHA standard (29 CFR 1910.134) and/or ANSI Z88.2 recommendations.

LidoChem, Inc.
 20 Village Court
 Hazlet, NJ 07730
 Phone#:(732) 888 8000
 Fax#: (732) 264 2751
 email: info@lidochem.com

MATERIAL SAFETY DATA SHEET

MSDS#:	850
Product Code:	NUTROL
Date Printed:	02/12/04
Review/Revision Date:	01/15/02

Eye Protection

Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material. It is generally regarded as good practice to wear a minimum of safety glasses with side shields when working in industrial environments.

Other Protection:

Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the above listed and following traditional exposure control techniques may be used to effectively minimize employee exposures.

Ventilation Limits:

Local exhaust ventilation at the point of generation is recommended.

Exposure Limits

Exposure limits represent regulated or recommended worker breathing zone concentrations measured by validated sampling and analytical methods, meeting OSHA requirements. The following limits (ACGIH, OSHA and other) apply to this material, where, if indicated, S=skin and C=ceiling limit:

ACGIH TLV/TWA PARTICULATES NOT OTHERWISE CLASSIFIED : 10 mg/cubic meter(INHALABLES)
 ACGIH TLV/TWA PARTICULATES NOT OTHERWISE CLASSIFIED: 3 mg/cubic meter (RESPIRABLE)

Hygienic Practices:

All food / smoking materials should be kept in a separate area away from the storage/use location. Eating, drinking and smoking should be prohibited in areas where there is a potential for significant exposure to this material. Before eating, drinking or smoking, hands and face should be thoroughly washed. Facilities storing or using this material should be equipped with an eyewash and safety shower.

Section IX - Physical and Chemical Properties

Molecular Weight:	136.09
Boiling Point:	N/A
Melting Point:	N/A
Specific Gravity:	N/A
Vapor Pressure(mm/hg):	nonvolatile
Vapor Density(air=1):	nonvolatile
Reactivity In Water:	N/A
Solubility In Water:	soluble
Appearance And Odor:	Odorless, white powder solid.
Other:	pH: 4.5 at 1 wt/wt%.

LidoChem, Inc.
 20 Village Court
 Hazlet, NJ 07730
 Phone#:(732) 888 8000
 Fax#: (732) 264 2751
 email: info@lidochem.com

MATERIAL SAFETY DATA SHEET

MSDS#:	850
Product Code:	NUTROL
Date Printed:	02/12/04
Review/Revision Date:	01/15/02

Section X - Stability and Reactivity

Stability:
 This material is stable under normal handling and storage conditions.

Conditions to Avoid:
 None known.

Incompatible Materials:
 None known.

Hazardous Decomposition Products:
 Oxides of phosphorus, oxides of potassium.

Polymerization Conditions To Avoid:
 None known.

Section XI - Toxicological Information

Eye Effects:
 No test data found for product.

Skin Effects:
 Skin irritation, rabbit. Mild irritant.

Dermal Toxicity:
 LD50 - lethal dose 50% of test species, > 7950 mg/kg, rabbit.

Inhalation Effects:
 No test data found for product.

Sensitization:
 Not available.

LidoChem, Inc.
 20 Village Court
 Hazlet, NJ 07730
 Phone#:(732) 888 8000
 Fax#: (732) 264 2751
 email: info@lidochem.com

MATERIAL SAFETY DATA SHEET

MSDS#:	850
Product Code:	NUTROL
Date Printed:	02/12/04
Review/Revision Date:	01/15/02

Ingestion Effects:

LD50 - lethal dose 50% of test species, 7100 mg/kg, rat.

Carcinogenicity/Mutagenicity:

This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens.
 No information on mutagenicity found for this product.

Reproductive Effects:

Not available.

Neurotoxicity:

Not available.

Target Organs:

Not available.

Additional Toxicological Information:

None.

Section XII- Ecological Information

Biodegradability:	Not available.
Ecotoxicity:	Not available.
Biological Oxygen Demand(BOD5):	Not available.
Chemical Oxygen Demand:	Not available.
Activated Sludge Respiration Inhibition Test:	Not available.

Additional Ecological Information:

None

SECTION XIII - Disposal Considerations

Waste Disposal Methods:

Chemical additions, processing or otherwise altering this material may make the waste management information present in this MSDS incomplete, inaccurate or otherwise inappropriate. Be advised that state/local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state/local regulations regarding proper disposal of material.

LidoChem, Inc.
 20 Village Court
 Hazlet, NJ 07730
 Phone#:(732) 888 8000
 Fax#: (732) 264 2751
 email: info@lidochem.com

MATERIAL SAFETY DATA SHEET

MSDS#:	850
Product Code:	NUTROL
Date Printed:	02/12/04
Review/Revision Date:	01/15/02

Container Disposal Information:

Be advised that state/local requirements for container disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state/local regulations regarding proper disposal of container.

Section XIV - Transport Information

Proper Shipping Name:	Monopotassium Phosphate		
D. O. T. Hazard Class:	Not regulated by D.O.T.	UN:	N/A
Label Requirement:	None	RQ:	N/A
Placard:	None	CAS:	7778-77-0
Packing Group:	N/A		

Section XV - Regulatory Information

State Right To Know Laws:

The following ingredients are disclosed for compliance with State Right to Know Laws:

CAS#	Chemical Name	State RTK
	none	

SARA Title III Hazard Classes Sections 311/312:

N/A

OSHA Status:

This product does NOT contain any products considered hazardous under the Federal OSHA HazCom. Standard 29 CFR 1910.1200.

SARA Title III Hazard Classes Section 302 - EXTREMELY HAZARDOUS SUBSTANCES:

This product does NOT contain ingredients listed in Appendix A and B as Extremely Hazardous substances.

none

TSCA Status:

Listed/Non-reportable

SARA Section 313 :

This product contains the following toxic chemical subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act:

CAS#	Chemical Name:
	none

LidoChem, Inc.
 20 Village Court
 Hazlet, NJ 07730
 Phone#:(732) 888 8000
 Fax#: (732) 264 2751
 email: info@lidochem.com

MATERIAL SAFETY DATA SHEET

MSDS#:	850
Product Code:	NUTROL
Date Printed:	02/12/04
Review/Revision Date:	01/15/02

Cercla, 40 Cfr 117, 302:

This product does NOT contain ingredients specified in the List of Extremely Hazardous Substances.

Cercla Listed Substances Are:

none

SARA Superfund Section 110:

This product does NOT contain ingredients listed as hazardous substances on the Priority List of CERCLA Hazardous substances.

California Proposition 65:

This product does NOT contain any chemicals which require warning under California Proposition 65.

Michigan Critical Materials:

This product does NOT contain ingredients listed on the Michigan Critical Materials Register.

CAA:	None known
CWA:	None known
RCRA:	Not considered a hazardous waste.
Canada CEPA:	All intentional ingredients are listed on DSL.
Canada WHMIS:	Not controlled.

SECTION XVI- Other Information

Medical Conditions Possibly Aggravated by Exposure:

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.

Notes to Physician:

Ingestion of large quantities of phosphate salts (over 1.0 grams for an adult) may cause an osmotic catharsis resulting in diarrhea and probable abdominal cramps. Larger doses such as 4-8 grams will almost certainly cause these effects in everyone. In healthy individuals most of the ingested salt will be excreted in the feces with the diarrhea and, thus, not cause any systemic toxicity. Doses greater than 10 grams hypothetically may cause systemic toxicity. Treatment should take into consideration both anionic and cation portion of the molecule. The following treatments should be considered for the specific group(s) of phosphate salts found in this product.

All phosphate salts, except calcium salts, have a hypothetical risk of hypocalcemia, so calcium levels should be monitored.

Ammonium salts have a hypothetical risk of ammonia toxicity. In addition to calcium levels, ammonia and phosphate levels should be monitored.

Potassium salts have a hypothetical risk of hyperkalemia which can cause cardiac arrhythmia. In addition to calcium levels, potassium

LidoChem, Inc.
 20 Village Court
 Hazlet, NJ 07730
 Phone#:(732) 888 8000
 Fax#: (732) 264 2751
 email: info@lidochem.com

MATERIAL SAFETY DATA SHEET	
MSDS#:	850
Product Code:	NUTROL
Date Printed:	02/12/04
Review/Revision Date:	01/15/02

NOTICE: OSHA STANDARD 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a Hazard Communication Program including training, labeling, Material Safety Data Sheets, and access to written records. We request that you, and it is your legal duty, make all information in this Material Safety Data Sheet available to your employees.

Key Legend Information:

N/Av:	Not Available	N/Ap:	Not Applicable
N/R:	Not Rated	ND:	Not Determined
ACGI	American Conference of Gov'ntal Industrial Hygienists	TLV:	Threshold Limit Value
OSHA:	Occupational Safety and Health Administration	TWA:	Time Weighted Average
PEL:	Permissible Exposure Limit	NTP:	National Toxicology Program
STEL:	Short Term Exposure Limit		
IARC:	International Agency for Research on Cancer		
SARA Title III:	Superfund Amendments and Reauthorization Act		
CERCLA:	Comprehensive Response, Compensation and Liability Act		
TSCA:	Toxic Substance Control Act		

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein. This Material Safety Data Sheet was prepared to comply with OSHA Hazard Communication standard. (29 CFR 1910.1200). This supersedes any previous information. All LidoChem, Inc. MSDS's are reviewed every three years or sooner if necessary. Please check the Review Date on Page 1 for most current version. Please request a new MSDS from LidoChem, Inc. if the date is older than 3 years.