Material Safety Data Sheet
Wheel & Spoke Acid

Section 1. Chemical Product and Company Identification

Product Name	Wheel & Spoke Acid
Product Number	NTA WSA
Manufacturer/ Supplier	NuTech Specialties, Inc. 9811 So. 6150 W. West Jordan, UT 84088
Phone Number	(801) 253-1000 (Mon-Fri/ 8am- 5pm MT)
D.O.T. Emergency Phone:	**1-800-633-8253**
Date of Preparation	October 19, 2012 **Revision Number** 1.0

Section 2. Hazards Identification

Emergency overview **This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

DANGER!

Keep out of reach of children.
Keep container closed during storage. Ensure that eyewash stations and safety showers are proximal to the work-station location. S24/25- Avoid contact with skin and eyes.

Potential Acute Health Effects	Corrosive to skin and eyes on contact, liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns.
Routes of Entry	Eye Contact, Skin contact, Ingestion, INHALATION.
Eyes	Corrosive to the eyes. Liquid and mist can cause pain, and tearing, possible swelling of the conjunctiva, and corneal destruction.
Skin	Corrosive to the skin. Can cause severe chemical burns and possible ulceration.
Inhalation	Inhalation may severely burn respiratory tract. Irritating to mucous membranes in the nose, throat, and lungs. May cause coughing, chest pain, and difficulty in breathing, prolonged exposure may result in tissue damage.
Ingestion	Extremely corrosive to the mouth and throat. May result in severe chemical burns. May cause coughing, choking, headaches, and dizziness. Can cause severe abdominal pain, nausea, vomiting, and possible collapse.
Medical conditions aggravated by exposure:	Prolonged exposure may result in skin burns and ulcerations. Severe over-exposure can produce lung damage, choking, unconsciousness or death.
Potential Chronic Health	Prolonged exposure may result in skin burns and ulcerations. Severe over-exposure can produce lung damage, choking, unconsciousness or death.
Carcinogenic Effects	Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.
Target Organs	
Environmental Effects	Not available.

Section 3. Composition and Information on Ingredients

Name	CAS #	% by Weight	Exposure Limits	LC_{50}/LD_{50}
Ammonium Hydrogen Fluoride	7664-39-3	Proprietary		3 PPM
Phosphoric Acid	7664-38-2	Proprietary		1 MG/M3
Sulfuric Acid	7664-95-9	Proprietary		
Glycol Ether EB	111-76-2	Proprietary		

Section 4. First Aid Measures

Eye Contact

Eye contact can result in corneal damage or blindness. Call a poison control center or SEEK IMMEDIATE MEDICAL ATTENTION. IMMEDIATELY flush eyes with running water for at least 15 to 20 minutes, keeping eyelids open. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Repeat once or twice at 15 minute intervals. To alleviate pain until physician arrives add 2 drops of 0.5% "Pontocaine" (Withrop Lab) Hydrochloride solution into eyes. No oils or oily ointments should be used unless directed by doctor.

Skin Contact

Remove contaminated clothing and shoes. Wash gently and thoroughly the contaminated skin with running water and non abrasive soap for 15 to 20 minutes. Call a poison control center or SEEK IMMEDIATE MEDICAL ATTENTION.

Inhalation

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth if possible. If breathing is difficult, give oxygen. Call poison control center or seek medical attention if symptoms persist.

Ingestion

Call a poison control center IMMEDIATELY for treatment advice. Have conscious person sip a glass of water if able to swallow. DO NOT induce vomiting unless instructed to do so by poison control center or doctor. DO NOT give anything by mouth to an unconscious person NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

General Advice

In case of Accident or if you feel unwell, seek medical advice immediately (show label or MSDS where possible).

Notes to Physician

Not available

Section 5. Fire Fighting Measures

Flammability

Not to be considered a fire hazard

Fire Fighting Media and instructions

Water spray, Foam, Carbon Dioxide

Products of Combustion

Not available

Special Remarks on Fire Hazards

The amount of vapor released form ruptured containers will be increased by heat. In such case full protective equipment may be needed. Product is non-Flammable, However, it can react with metals to produce hydrogen, a flammable gas

Special Remarks on Explosion Hazards

The amount of vapor released form ruptured containers will be increased by heat. In such case full protective equipment may be needed. Product is non-Flammable, However, it can react with metals to produce hydrogen, a flammable gas

Sensitivity to Mechanical Impact

None

Sensitivity to Discharge

None

Protection of Fire Fighters

See special remarks on Fire Hazards

Section 6. Accidental Release Measures

Personal Precautions	Face shield. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Methods for Containment	Corrosive liquid. Avoid to runoff to sewers and waterways. Water protective clothing. Absorb with inert material. Contact your local Emergency planning commission for further instructions. Absorb with an in inert material and put the spilled material in an appropriate waste disposal.
Environmental Precautions	Neutralize with lime and flush with water. Runoff to sewer may create a hazard in the case of large spills; Notify authorities.
Methods for Clean Up	DO NOT breathe vapor, get in eyes, on skin, or on clothing. Keep personnel upwind of spill and DO NOT enter area unless equipped with full protective equipment and self contained breathing apparatus.

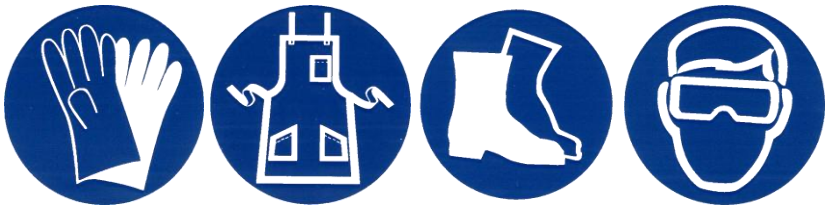
Section 7. Handling and Storage

Precautions	Store in well ventilated building or sheds. Protect against heat and physical damage. DO NOT get in eyes, no skin, on clothing. DO NOT breathe vapor. Keep container closed. Wash thoroughly after handling. Keep locked up. Keep container dry. DO NOT INGEST. Do not breathe the gas, fumes, vapor or spray. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or label. Avoid contact with skin and eyes. After handling, always wash hands thoroughly with soap and water.
Incompatibility	Strong alkalis, most metal, bleach. Alkalis incompatible with chlorinated solvents. Incompatible with alcohols and wide variety of metals
Storage	Corrosive materials should be stored in a separate safety storage cabinet or room. Not for use or storage in or around the home. Keep out of reach of children. For Institutional and Commercial Use

Keep out of reach of children.
Keep container closed during storage. Ensure that eyewash stations and safety showers are proximal to the work station location. S24/25- Avoid contact with skin and eyes.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	
Personal Protection	Good general ventilation should be sufficient to control airborne levels. Eye wash fountain and safety shower highly recommended.
Eyes	Chemical safety splash goggles and Face Shield
Body	Rubber boots, in considerable exposure a full rubber suit should be used. Also additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.
Respiratory	Wear appropriate U.S. Bureau of mines approved respirator.
Ventilation Requirements	None for normal use. Self-contained breathing apparatus for severe exposure
Hands	Impervious gloves
Protective Clothing (Pictograms)	



Exposure Limits	**Phosphoric Acid:** Oral (Rat) 1530 mg/kg **Ammonium Bifluoride:** LD50-not found Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Clear Liquid
Molecular Weight	N/A
Ph	0.5 to 1.0
Boiling/Condensation Point	212 F
Melting/Freezing Point	None above 32 F
Critical Temperature	Non applicable
Instability Temperature	Not applicable
Specific Gravity	(H20 = 1): 1.09
Vapor Pressure	**(**Non-Aerosols)(mm Hg and Temperature): N/A
Vapor Density	(Air = 1)
Volatility	N/A
VOC	N/A
Evaporation Rate	(H20 = 1): N/A
Dispersion Properties	N/A
Solubility	Complete in water
The Product is:	Non-Flammable, Acidic Liquid
Auto-ignition Temperature	N/A
Flash Points	Non-Flammable
Flammable Limits	Not applicable
Fire Hazards in Presence Of Various Substances	Product is non-Flammable, however, it can react with metals to produce hydrogen, a flammable gas
Explosion Hazards in Presence of Various Substances	Product is non-Flammable, however, it can react with metals to produce hydrogen, a flammable gas
Odor	Acidic
Color	Clear

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Incompatibility with Various Substance	Strong alkalis, most metal, bleach. Alkalis incompatible with chlorinated solvents. Incompatible with alcohols and wide variety of metals
Hazardous Decomposition Products	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Skin Contact. Ingestion. Eye Contact.
Toxicity to Animals	Oral (Rat) LD50 1530 mg/kg (Phosphoric Acid)
Acute Effects on Humans	
Eyes	Corrosive to the eyes. Liquid and mist can cause pain, and tearing, possible swelling of the conjunctiva, and corneal destruction.
Skin	Corrosive to the skin. Can cause severe chemical burns and possible ulceration
Inhalation	Inhalation may severely burn respiratory tract. Irritating to mucous membranes in the nose, throat, and lungs. May cause coughing, chest pain, and difficulty in breathing, prolonged exposure may result in tissue damage.
Ingestion	Extremely corrosive to the mouth and throat. May result in severe chemical burns. May cause coughing, choking, headaches, and dizziness. Can cause severe abdominal pain, nausea, vomiting, and possible collapse
Chronic Effects on Humans	Prolonged exposure may result in skin burns and ulcerations. Severe over-exposure can produce lung damage, choking, unconsciousness or death.
Special Remarks on Toxicity to Animals	No additional remark
Special Remarks on Chronic Effects on Humans	No additional remark

Section 12. Ecological Information

Ecotoxicity	No information found
BOD5 and COD	Not available
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	Not available
Special Remarks on the Products of Biodegradation	Not available

Section 13. Disposal Considerations

Waste Information Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Waste Stream Not available

Section 14. Transport Information

DOT (U.S.A.) (Pictograms)

TDG Classification 8

PIN UN, Proper Shipping Name, PG Shipping Name: UN 1760, Corrosive liquid, NOS (Sulfuric Acid) 8, PGII ERG 154

Maritime Transportation Not a "marine pollutant"

Special Provisions for Transport Not available.

Section 15. Regulatory Information and Pictograms

Regulatory Lists No products were found.

Other Regulations OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications

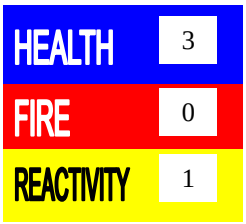
HCS (U.S.A.) HCS Class: Corrosive Liquid. HCS Class: Toxic.

USA Regulatory Lists This product does NOT contain components that are known to the state of California to Cause Cancer or Reproductive Harm at or above California Prop 65 No Observable Effect Level (NOEL)
SARA 302 Extremely Hazardous Substances - Not listed
SARA 311 - 1. Immediate (acute) health hazard
SARA 313 Toxic Chemical List – Not listed

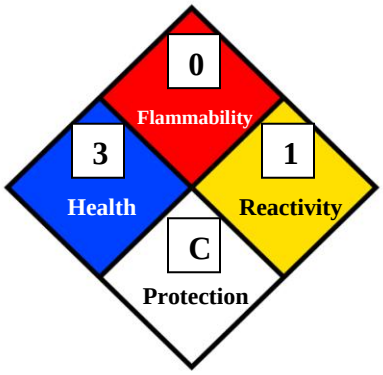
DSD (EEC) R22- Harmful if swallowed.
R35- Causes severe burns.

International Regulations Lists No Products were found.

Hazardous Material Information System (U.S.A.)



National Fire Protection Association (U.S.A.)



WHMIS (Classification) WHMIS CLASS E: Corrosive Liquid. WHMIS CLASS D-1: Material causing immediate and serious toxic effects.

The Hazard Ranking systems presented on this MSDS sheet provide only a quick reference for hazard information. The ENTIRE MSDS must be consulted to determine any specific hazards, First Aid measures, and PPE associated with this product.

Section 16. Other Information

Expiry Date **3 (Three Years) from the date of preparation indicated in Section 1.**

Validated by **Verified by**

Printed

Information Contact

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Validated on **NuTech Specialties, Inc.**