



P & S Sales, Inc.

Material Safety Data Sheet

Product Name:

Date Issued: 7/15/2011

N33 - Water Spot Remover

1. Product and Company Information

P & S Sales, Inc
20943 Cabot Blvd.
Hayward CA 94545

Emergency Number: 800-255-3924
Customer Service: 510-732-2628
Business Fax: 510-732-2632

Generic Description: Thin Clear liquid with an acidic odor

NFPA Profile: Health 3 Flammability 0 Reactivity 0

2. OSHA Hazard Components

CAS Number	Wt %	Component Name
1341-49-7	1-3%	Ammonium Bifluoride
7664-93-9	5-10%	Sulfuric Acid
111-76-2	< 2%	Ethylene Glycol Monobutyl Ether

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

3. Effects of Overexposure

DANGER! MAY BE FATAL IF SWALLOWED OR INHALED. AFFECTS RESPIRATORY SYSTEM, HEART, SKELETON, CIRCULATORY SYSTEM, CENTRAL NERVOUS SYSTEM AND KIDNEYS. CAUSES IRRITATION AND BURNS TO SKIN, EYES AND RESPIRATORY TRACT. IRRITATION AND BURN EFFECTS MAY BE DELAYED. HARMFUL IF ABSORBED THROUGH SKIN.

Potential Health Effects

If inhaled or swallowed, this compound can cause fluoride poisoning. Early symptoms include nausea, vomiting, diarrhea, and weakness. Later effects include central nervous system effects, cardiovascular effects and death.

Inhalation: May cause irritation and burns to the respiratory tract, symptoms may include coughing, sore throat, and labored breathing. May be absorbed through inhalation of dust; symptoms may parallel those from ingestion exposure. Irritation and burning effects may not appear immediately. **Ingestion:** May cause salivation, nausea, vomiting, diarrhea, and abdominal pain, followed by symptoms of weakness, tremors, shallow respiration, carpedal spasm, convulsions, and coma. May cause brain and kidney damage. Affects heart and circulatory system. Death may be caused by respiratory paralysis. Lethal dose estimated at between 1 teaspoonful and 1 oz.

Skin Contact: Causes irritation and burns to the skin. Effects may not appear immediately.

Eye Contact: Causes irritation. May be extremely irritating with possible burns to eye tissue and permanent eye damage may result.

Chronic Exposure: Chronic exposure may cause mottling of teeth and bone damage (osteosclerosis) and fluorosis.

Symptoms of fluorosis include brittle bones, weight loss, anemia, calcified ligaments, general ill health and joint stiffness.

Aggravation of Pre-existing Conditions: Populations that appear to be at increased risk from the effects of fluoride are individuals that suffer from diabetes insipidus or some forms of renal impairment.

4. First Aid Measures

First aid procedures should be pre-planned for fluoride compound emergencies.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. CALL A PHYSICIAN IMMEDIATELY.

Ingestion: Administer milk, chewable calcium carbonate tablets or milk of magnesia. Never give anything by mouth to an unconscious person. CALL A PHYSICIAN IMMEDIATELY. **Skin Contact:** Wipe off any excess material from skin and then immediately flush skin with large amounts of soapy water. Remove contaminated clothing and shoes. Wash clothing before re-use. Apply bandages soaked in magnesium sulfate. CALL A PHYSICIAN IMMEDIATELY.

Eye Contact: Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper



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eyelids occasionally. Call a physician immediately.

Note to Physician: For large exposures, systemic effects (hypocalcemia and hypomagnesia) may occur.

5. Fire Fighting Measures

Flash Point none	Upper Flamability Limit none
Auto Ignition none	Lower Flamability Limit none

Contact with metal may evolve flammable gas.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. Handling and Storage

Keep in a tightly closed container. Store in a cool, dry, ventilated area. Protect against physical damage. Separate from acids and alkalis. Do not store in metal containers, as contact with moisture and metal at the same time may release flammable hydrogen gas. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls and Personal Protection

1341-49-7	Ammonium Bifluoride	2.5 mg/m ³ OSHA PEL TWA 2.5 mg/m ³ ACGIH TLV
7664-93-9	Sulfuric Acid	1 mg/m ³ OSHA PEL TWA .2 mg.m ³ ACGIH TLV
111-76-2	Ethylene Glycol Monobutyl Ether	50 ppm OSHA TWA 20 ppm ACGIH TWA

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest..

A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator.

WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties



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Physical State Liquid

Color Clear

Vapor Press unknown

pH < 1

Specific Gravity 1.144

Viscosity thin

Vapor Density (Air=1) 1

Melting Point °F unknown

Odor Acid/Glycol

Water Solubility complete

VOC Content .7%

10. Stability and Reactivity

Stability Stable

Hazardous Polymerization Not Expected to Occur

Conditions to Avoid

Reacts with acids to liberate hydrogen fluoride and base to liberate ammonia. Will corrode glass, cement and most metals.

**Hazardous
Decomposition Products**

Emits toxic fumes of hydrogen fluoride, nitric oxides, and ammonia when heated to decomposition. Upon contact with metal, this material may release hydrogen gas.

11. Toxicological Information

Toxicological Data: for Sulfuric Acid

Oral rat LD50: 2140 mg/kg; inhalation rat LC50: 510 mg/m³/2H; standard Draize, eye rabbit, 250 ug (severe); investigated as a tumorigen, mutagen, reproductive effector.

Carcinogenicity:

Cancer Status: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC category 1). This classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions.

Use extreme caution when handling this material.

12. Ecological Information

Environmental Fate: Sulfuric Acid

When released into the soil, this material may leach into groundwater. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition. When released into the air, this material may be removed from the atmosphere to a moderate extent by dry deposition.

Environmental Toxicity: Sulfuric Acid

LC50 Flounder 100 to 330 mg/l/48 hr aerated water/Conditions of bioassay not specified; LC50 Shrimp 80 to 90 mg/l/48 hr aerated water /Conditions of bioassay not specified; LC50 Prawn 42.5 ppm/48 hr salt water /Conditions of bioassay not specified.

This material may be toxic to aquatic life.

13. Disposal Information

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transportation Information

Domestic (Land, D.O.T.)

Proper Shipping Name: UN2922, Corrosive Liquid, Toxic, N.O.S. (Sulfuric Acid, Ammonium Hydrogenfluoride), 8, (6.1), PG II
Information reported for product/size: 32 oz up to 55 gallon drum.



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International (Water, I.M.O.)

Proper Shipping Name: UN2922, Corrosive Liquid, Toxic, N.O.S. (Sulfuric Acid, Ammonium Hydrogenfluoride), 8, (6.1), PG II
Information reported for product/size: 32 oz up to 55 gallon drum.

15. Regulatory Information

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355): Yes, RQ and TPQ of 1000 lb

Section 304 CERCLA Hazardous Substances (40 CFR 302): None.

Section 311/312 Hazard Class (40 CFR 370):

Acute: Yes

Chronic: Yes

Fire: No

Pressure: No

Reactive: No

Section 313 Toxic Chemicals (40 CFR 372): Sulfuric Acid is Listed

16. Other Information

Label Hazard Warning: DANGER! MAY BE FATAL IF SWALLOWED OR INHALED. AFFECTS RESPIRATORY SYSTEM, HEART, SKELETON, CIRCULATORY SYSTEM, CENTRAL NERVOUS SYSTEM AND KIDNEYS. CAUSES IRRITATION AND BURNS TO SKIN, EYES AND RESPIRATORY TRACT. IRRITATION AND BURN EFFECTS MAY BE DELAYED. HARMFUL IF ABSORBED THROUGH SKIN.

Label Precautions:

Do not breathe dust. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing.

The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal counsel should be consulted to insure proper health, safety and other necessary information is included on the



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N30 - Aluminum Brightener

1. Product and Company Information

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20943 Cabot Blvd.
Hayward CA 94545

Emergency Number: 800-255-3924
Customer Service: 510-732-2628
Business Fax: 510-732-2632

Generic Description: Thin Clear liquid with an acidic odor

NFPA Profile: Health 3 Flammability 0 Reactivity 0

2. OSHA Hazard Components

CAS Number	Wt %	Component Name
1341-49-7	2-6%	Ammonium Bifluoride
7664-93-9	10-30%	Sulfuric Acid
26027-38-3	2-8%	Nonylphenol Ethoxylate
111-76-2	1-2%	Ethylene Glycol Monobutyl Ether

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

3. Effects of Overexposure

DANGER! MAY BE FATAL IF SWALLOWED OR INHALED. AFFECTS RESPIRATORY SYSTEM, HEART, SKELETON, CIRCULATORY SYSTEM, CENTRAL NERVOUS SYSTEM AND KIDNEYS. CAUSES IRRITATION AND BURNS TO SKIN, EYES AND RESPIRATORY TRACT. IRRITATION AND BURN EFFECTS MAY BE DELAYED. HARMFUL IF ABSORBED THROUGH SKIN.

Potential Health Effects

If inhaled or swallowed, this compound can cause fluoride poisoning. Early symptoms include nausea, vomiting, diarrhea, and weakness. Later effects include central nervous system effects, cardiovascular effects and death.

Inhalation: May cause irritation and burns to the respiratory tract, symptoms may include coughing, sore throat, and labored breathing. May be absorbed through inhalation of dust; symptoms may parallel those from ingestion exposure. Irritation and burning effects may not appear immediately. **Ingestion:** May cause salivation, nausea, vomiting, diarrhea, and abdominal pain, followed by symptoms of weakness, tremors, shallow respiration, carpedal spasm, convulsions, and coma. May cause brain and kidney damage. Affects heart and circulatory system. Death may be caused by respiratory paralysis. Lethal dose estimated at between 1 teaspoonful and 1 oz.

Skin Contact: Causes irritation and burns to the skin. Effects may not appear immediately.

Eye Contact: Causes irritation. May be extremely irritating with possible burns to eye tissue and permanent eye damage may result.

Chronic Exposure: Chronic exposure may cause mottling of teeth and bone damage (osteosclerosis) and fluorosis.

Symptoms of fluorosis include brittle bones, weight loss, anemia, calcified ligaments, general ill health and joint stiffness.

Aggravation of Pre-existing Conditions: Populations that appear to be at increased risk from the effects of fluoride are individuals that suffer from diabetes insipidus or some forms of renal impairment.

4. First Aid Measures

First aid procedures should be pre-planned for fluoride compound emergencies.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. CALL A PHYSICIAN IMMEDIATELY.

Ingestion: Administer milk, chewable calcium carbonate tablets or milk of magnesia. Never give anything by mouth to an unconscious person. CALL A PHYSICIAN IMMEDIATELY. **Skin Contact:** Wipe off any excess material from skin and then immediately flush skin with large amounts of soapy water. Remove contaminated clothing and shoes. Wash clothing before re-use. Apply bandages soaked in magnesium sulfate. CALL A PHYSICIAN IMMEDIATELY.



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Eye Contact: Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a physician immediately.

Note to Physician: For large exposures, systemic effects (hypocalcemia and hypomagnesia) may occur.

5. Fire Fighting Measures

Flash Point	none	Upper Flamability Limit	none
Auto Ignition	none	Lower Flamability Limit	none

Contact with metal may evolve flammable gas.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. Handling and Storage

Keep in a tightly closed container. Store in a cool, dry, ventilated area. Protect against physical damage. Separate from acids and alkalis. Do not store in metal containers, as contact with metal may release flammable hydrogen gas. Containers of this material may be hazardous when empty since they retain product residues (including dust and solids); observe all warnings and precautions listed for the product.

8. Exposure Controls and Personal Protection

1341-49-7	Ammonium Bifluoride	2.5 mg/m ³ OSHA PEL TWA 2.5 mg/m ³ ACGIH TLV
7664-93-9	Sulfuric Acid	1 mg/m ³ OSHA PEL TWA
26027-38-3	Nonylphenol Ethoxylate	Not Available
111-76-2	Ethylene Glycol Monobutyl Ether	50 ppm OSHA TWA 20 ppm ACGIH TWA

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest..

A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator.

WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.



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9. Physical and Chemical Properties

Physical State Liquid	Color Clear	Vapor Press unknown
pH < 1	Specific Gravity 1.144	Viscosity thin
Vapor Density (Air=1) 1	Melting Point °F unknown	Odor Acid/Glycol
Water Solubility complete	VOC Content < 2%	

10. Stability and Reactivity

Stability Stable **Hazardous Polymerization** Not Expected to Occur

Conditions to Avoid Reacts with acids to liberate hydrogen fluoride and base to liberate ammonia. Will corrode glass, cement and most metals.

Hazardous Decomposition Products Emits toxic fumes of hydrogen fluoride, nitric oxides, and ammonia when heated to decomposition. Upon contact with metal, this material may release hydrogen gas.

11. Toxicological Information

Toxicological Data: for Sulfuric Acid

Oral rat LD50: 2140 mg/kg; inhalation rat LC50: 510 mg/m³/2H; standard Draize, eye rabbit, 250 ug (severe); investigated as a tumorigen, mutagen, reproductive effector.

Carcinogenicity:

Cancer Status: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC category 1). This classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions.

Use extreme caution when handling this material.

12. Ecological Information

Environmental Fate: Sulfuric Acid

When released into the soil, this material may leach into groundwater. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition. When released into the air, this material may be removed from the atmosphere to a moderate extent by dry deposition.

Environmental Toxicity: Sulfuric Acid

LC50 Flounder 100 to 330 mg/l/48 hr aerated water/Conditions of bioassay not specified; LC50 Shrimp 80 to 90 mg/l/48 hr aerated water /Conditions of bioassay not specified; LC50 Prawn 42.5 ppm/48 hr salt water /Conditions of bioassay not specified.

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Domestic (Land, D.O.T.)

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Information reported for product/size: 32 oz up to 55 gallon drum.

International (Water, I.M.O.)

Proper Shipping Name: UN2922, Corrosive Liquid, Toxic, N.O.S. (Sulfuric Acid, Ammonium Hydrogenfluoride), 8, (6.1), PG II
Information reported for product/size: 32 oz up to 55 gallon drum.

15. Regulatory Information

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355): Yes, RQ and TPQ of 1000 lb

Section 304 CERCLA Hazardous Substances (40 CFR 302): None.

Section 311/312 Hazard Class (40 CFR 370):

Acute: Yes

Chronic: Yes

Fire: No

Pressure: No

Reactive: No

Section 313 Toxic Chemicals (40 CFR 372): Sulfuric Acid is listed

16. Other Information

Label Hazard Warning: DANGER! MAY BE FATAL IF SWALLOWED OR INHALED. AFFECTS RESPIRATORY SYSTEM, HEART, SKELETON, CIRCULATORY SYSTEM, CENTRAL NERVOUS SYSTEM AND KIDNEYS. CAUSES IRRITATION AND BURNS TO SKIN, EYES AND RESPIRATORY TRACT. IRRITATION AND BURN EFFECTS MAY BE DELAYED. HARMFUL IF ABSORBED THROUGH SKIN.

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