

AIKEN CHEMICAL COMPANY, INC.
Safety Data Sheet
NAPA Mac's Aluminum Brightener

SECTION 1: Identification

1.1 Product identifier

Product name	NAPA Mac's Aluminum Brightener
Product number	1458; 1478
Brand	Mac's

1.3 Recommended use of the chemical and restrictions on use

Cleaning cast aluminum, stainless steel, copper, brass, and fiberglass.
Do not use on sealed, painted, or polished surfaces.

1.4 Supplier's details

Name	Aiken Chemical Company, Inc.
Address	P.O. Box 27147 Greenville, SC 29616 USA
Telephone	864-968-1250
Fax	864-968-1252
email	donnie@clean-rite.com

1.5 Emergency phone number(s) 800-424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

- Acute toxicity, oral (C.4.1), Cat. 4
- Skin corrosion/irritation (C.4.4), Cat. 1B
- Eye damage/irritation (C.4.5), Cat. 2A

2.2 GHS label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H319	Causes serious eye irritation

Precautionary statement(s)

P260	Do not breathe fume/gas/mist/vapors/spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER /doctor if you feel unwell.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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P305+P351+P338

P337+P313
P363

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Wash contaminated clothing before reuse.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. Phosphoric acid liquid

Concentration 1 - 9 % (weight)
CAS no. 7664-38-2

2. Sulfuric acid

Concentration 1 - 9 % (weight)
CAS no. 7664-93-9

3. Ammonium Bifluoride

Concentration 1 - 5 % (weight)
CAS no. 1341-49-7

4. ETHYLENE GLYCOL MONOBUTYL ETHER

Concentration 1 - 5 % (weight)
CAS no. 111-76-2

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Consult a physician/doctor if necessary. Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Show this material safety data sheet to the doctor in attendance.
If inhaled	IF INHALED: Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. Consult a physician. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water.
In case of skin contact	Remove contaminated clothing, jewelry and shoes immediately. Flush affected area with large amounts of water, then use soap or mild detergent and large amounts of water for 15-20 minutes to cleanse area. Get medical attention if you feel unwell.
In case of eye contact	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get immediate medical attention.
If swallowed	Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.
Personal protective equipment for first-aid responders	First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

4.2 Most important symptoms/effects, acute and delayed

Effects of Overexposure: May cause severe burns to skin or eyes.

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4.3 Indication of immediate medical attention and special treatment needed, if necessary

If any symptoms listed about become present and or persist, contact a physician immediately. Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Use extinguishing media appropriate for surrounding fire.

5.2 Specific hazards arising from the chemical

Hydrogen fluoride, nitrogen oxides, ammonia may be produced if overheated.

5.3 Special protective actions for fire-fighters

Fire fighters should enter area only if they are protected from all contact with the material. Full protective clothing, including self-contained breathing apparatus, coat, pants, gloves, boots and bands around legs, arms, and waist, should be worn. No skin surfaces should be exposed.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Dam spills if possible; then neutralize spill with soda ash or lime. Flush with water to a chemical sewer or disposal system. This neutralization procedure should be conducted with good ventilation. Wear chemical protective clothing, gloves and goggles.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

SMALL SPILLS: Contain and absorb with absorbent material and place into containers for later disposal. Wash site of spillage thoroughly with water. LARGE SPILLS: Dike far ahead of spill to prevent further movement. Recover by pumping or by using a suitable absorbent material and place into containers for later disposal. Dispose in suitable waste container.

Reference to other sections

Use proper personal protective equipment as indicated in Section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure adequate ventilation. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in a tightly closed container and in a cool, dry, well-ventilated area away from incompatible substances.

Specific end use(s)

Cleans and brightens cast aluminum surfaces. Cleans stainless steel. Can be used to clean Copper and Brass. May be used on fiberglass.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Phosphoric acid liquid (CAS: 7664-38-2)

TWA: 1 mg/l (ACGIH)

STEL: 3 mg/l (OSHA)

2. Sulfuric acid (CAS: 7664-93-9)

TWA: 1 mg/l (ACGIH)

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STEL: 3 mg/l (OSHA)

3. Ammonium Bifluoride (CAS: 1341-49-7)

TWA: 205 mg/l (ACGIH)

4. ETHYLENE GLYCOL MONOBUTYL ETHER (CAS: 111-76-2)

TWA: 50 ppm (ACGIH)

TWA: 25 ppm (OSHA)

8.2 Appropriate engineering controls

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms



Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Protective Gloves: Wear appropriate protective gloves to prevent skin exposure. Other Protective Clothing: Wear appropriate protective clothing to prevent skin exposure.

Body protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Distribution, Workplace and Household Settings: No special protective equipment required. Product Manufacturing Plant (needed at Product-Producing Plant ONLY): In case of insufficient ventilation wear suitable respiratory equipment

Environmental exposure controls

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	Clear/Colorless
Odor	Slight acidic odor
Odor threshold	No data available.
pH	3.0 – 3.5
Melting point/freezing point	No data available.
Initial boiling point and boiling range	No data available.
Flash point	No data available.
Evaporation rate	No data available.
Flammability (solid, gas)	No data available.
Upper/lower flammability limits	No data available.
Upper/lower explosive limits	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Relative density	1.0588
Solubility(ies)	No data available.

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Partition coefficient: n-octanol/water
Auto-ignition temperature
Decomposition temperature
Viscosity
Explosive properties
Oxidizing properties

No data available.
No data available.
No data available.
No data available.
No data available.
No data available.

Other safety information
No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Low reactivity with metals. None under normal use conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Low

10.4 Conditions to avoid

Extremely high temperatures, over exposure to metals.

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Nitrogen oxides (NOx), Hydrogen fluoride Other decomposition products - No data available In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Product:

Acute Toxicity, oral (.4.1.), Cat. 4
Acute Toxicity, inhalation, Not Classified
Acute Toxicity, dermal, Not Classified

Ingredients:

Phosphoric Acid:
LD50 Oral - Rat - 1530 mg/kg
LC50 Inhalation - rabbit - 1.7 mg/l
LD50 Dermal - No Data

Sulfuric Acid:
LD50 Oral - Rat - 2140 mg/kg
LC50 Inhalation - rat- 2 h - 510 mg/l
LD50 Dermal - No Data

Ammonium Bi Fluoride:
LD50 Oral - Rat - 130 mg/kg
LC50 Inhalation - rabbit - No Data
LD50 Dermal - No Data

Ethylene Glycol Monobutyl Ether:
LD50 Oral - Rat - 880 mg/kg
LC50 Inhalation - No Data

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LD50 Dermal - rabbit - male - 1060 mg/kg

Skin corrosion/irritation

Product:

Skin corrosion/irritation (C.4.4), Cat. 1B

Ingredients:

Phosphoric acid liquid: No data available

Sulfuric acid: Skin - Rabbit Result: Extremely corrosive and destructive to tissue.

Ammonium Bi fluoride: No data available

Ethylene Glycol Monobutyl Ether: Result: Skin irritation - 20 h

Serious eye damage/irritation

Product:

Eye damage/irritation (C.4.5), Cat. 2A

Ingredients:

Phosphoric acid liquid: No data available

Sulfuric acid: Rabbit - Result: Corrosive to eyes

Ammonium Bi fluoride: No data available

Ethylene Glycol Monobutyl Ether: Rabbit - Result: Eye irritation - 24 h

Respiratory or skin sensitization

Product:

Does not cause skin sensitization.

Ingredients:

Phosphoric acid liquid: No data available

Sulfuric acid: Rabbit - Result: Corrosive to eyes

Ammonium Bi fluoride: No data available

Ethylene Glycol Monobutyl Ether: Guinea pig Result: Does not cause skin sensitization.

Germ cell mutagenicity

Product:

Not Expected

Ingredients:

Phosphoric acid liquid: No data available

Sulfuric acid: Skin - Rabbit Result: Extremely corrosive and destructive to tissue.

Ammonium Bi fluoride: No data available

Ethylene Glycol Monobutyl Ether: Hamster - ovary - Result: negative - Mouse - male - Result: negative

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

Product:

Not Expected

Ingredients:

Phosphoric acid liquid: No Data

Sulfuric acid: No Data

Ammonium Bi fluoride: No data available

Ethylene Glycol Monobutyl Ether: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

STOT-single exposure

Product:

Not Expected

Ingredients:

Phosphoric acid liquid: No Data

Sulfuric acid: No Data

Ammonium Bi fluoride: No Data

Ethylene Glycol Monobutyl Ether: No Data

STOT-repeated exposure

Product:

Not Expected

Ingredients:

Phosphoric acid liquid: No Data

Sulfuric acid: No Data

Ammonium Bifluoride: No Data

Ethylene Glycol Monobutyl Ether: No Data

Aspiration hazard

Product:

Not Expected

Ingredients:

Phosphoric acid liquid: No Data

Sulfuric acid: No Data

Ammonium Bifluoride: No Data

Ethylene Glycol Monobutyl Ether: No Data

SECTION 12: Ecological information

Toxicity

Ingredients:

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Phosphoric acid liquid:

No Data

Sulfuric acid:

Toxicity to fish LC50 - *Gambusia affinis* (Mosquito fish) - 42 mg/l - 96 h Toxicity to *Daphnia* and EC50 - *Daphnia magna* (Water flea) - 29 mg/l - 24 h other aquatic invertebrates

Ammonium Bi fluoride:

No Data

Ethylene Glycol Monobutyl Ether:

Toxicity to fish static test LC50 - *Oncorhynchus mykiss* (rainbow trout) - 1,474 mg/l - 96 h (OECD Test Guideline 203) Toxicity to *Daphnia* and other aquatic invertebrates Immobilization EC50 - *Daphnia magna* (Water flea) - 1,550 mg/l - 48 h (OECD Test Guideline 202) Toxicity to algae Growth inhibition EC50 - *Pseudokirchneriella subcapitata* (green algae) - 1,840 mg/l - 72 h (OECD Test Guideline 201)

Persistence and degradability

Ingredients:

Phosphoric acid liquid:

No Data

Sulfuric acid:

The methods for determining the biological degradability are not applicable to inorganic substances.

Ammonium Bi fluoride:

No Data

Ethylene Glycol Monobutyl Ether:

Result: 90.4 % - Readily biodegradable. (OECD Test Guideline 301B) Remarks: The 10 day time window criterion is not fulfilled. Ratio BOD/ThBOD 88 %

Bioaccumulative potential

Ingredients:

Phosphoric acid liquid:

No Data

Sulfuric acid:

No Data

Ammonium Bi fluoride:

No Data

Ethylene Glycol Monobutyl Ether:

No Data

Mobility in soil

Ingredients:

Phosphoric acid liquid:

No Data

Sulfuric acid:

No Data

Ammonium Bifluoride:

No Data

Ethylene Glycol Monobutyl Ether:

No Data

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Results of PBT and vPvB assessment

Ingredients:

Phosphoric acid liquid:

No Data

Sulfuric acid:

No Data

Ammonium Bifluoride:

No Data

Ethylene Glycol Monobutyl Ether:

No Data

SECTION 13: Disposal considerations

Disposal of the product

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Disposal of contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

DOT (US)

UN Number: UN1760

Class: 8

Packing Group: II

Proper Shipping Name: CORROSIVE LIQUID N.O.S. (PHOSPHORIC ACID, SULFURIC ACID, AMMONIUM BIFLUORIDE)

IMDG

UN Number:

Class:

Packing Group:

EMS Number:

Proper Shipping Name:

IATA

UN Number:

Class:

Packing Group:

Proper Shipping Name:

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts Right to Know Components

Chemical name: Sulfuric acid

CAS number: 7664-93-9

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Chemical name: Ammonium bifluoride
CAS number: 1341-49-7

Chemical Name: 2-Butoxyethanol
CAS-No. 111-76-2

New Jersey Right to Know Components

Common name: Sulfuric acid
CAS number: 7664-93-9

Common name: Ammonium bifluoride
CAS number: 1341-49-7

Pennsylvania Right to Know Components

Chemical name: Sulfuric acid
CAS number: 7664-93-9

Chemical name: Ammonium bifluoride
CAS number: 1341-49-7

Chemical Name: 2-Butoxyethanol
CAS-No. 111-76-2

SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302:

Chemical name: Sulfuric acid
CAS-No. 7664-93-9

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

Chemical name: Sulfuric acid
CAS-No. 7664-93-9

Chemical name: 2-Butoxyethanol
CAS-No. 111-76-2

15.2 Chemical Safety Assessment

NFPA (National Fire Protection Association)

HMIS (Hazardous Material Information System)

Hazards are split into categories each with a 0 to 4 rating, 0 meaning no hazard and 4 meaning high hazard

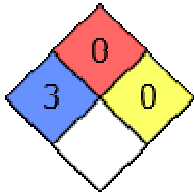
HMIS Rating

Aluminum Brightener	
HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	

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NFPA Rating



SECTION 16: Other information

Abbreviations, acronyms

ACGIH = American Conference of Governmental Industrial Hygienists

bw = body weight

bw/day = body weight/day

EC x = Effect Concentration associated with x% response

GLP = Good Laboratory Practice

IARC = International Agency for Research of Cancer

LC50 = 50% Lethal concentration - Concentration of a chemical in air or a chemical in water which causes the death of 50% (one

half) of a group of test animals

LD50 = 50% Lethal Dose - Chemical amount, given at once, which causes the death of 50% (one half) of a group of test animals

LL = Lethal Loading

NIOSH = National Institute of Occupational Safety and Health

NOAEL = No Observed Adverse Effect Level

NOEC = No Observed Effect Concentration

NOEL = No Observed Effect Level

OECD = Organization for Economic Co-operation and Development

OSHA = Occupational Safety and Health Administration

UVCB = Substance of unknown or Variable composition, Complex reaction products or Biological material

fw = fresh water

mw = marine water

or = occasional release

dw = dry weight

SCBA = Self Contained Breathing Apparatus

Legend

Section 8

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH - National Institute for Occupational Safety and Health

TLV - Threshold Limit Values

PEL - Permissible Exposure Limits

IDHL - Immediately Dangerous to Life or Health concentrations

TWA - Time Weight Average

STEL - Short Term Exposure Limits

S* - Skin notation

TSCA - Toxic Substance Control Act

16.1 Further information/disclaimer

The information is based on our knowledge to date but does not constitute an assurance of product properties and does not imply a legal contractual relationship.

Safety Data Sheet information is based on the Safety Data Sheet provided by the supplier.

16.2 Preparation information

Aiken Chemical Company, Inc.

P.O. Box 27147

Greenville, SC, 29616

864-968-1250

Safety Data Sheet
NAPA Mac's Aluminum Brightener

800-828-1860
864-968-1252 (fax)