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.

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P363	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.

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)

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.

Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Viscosity	No data available.
Explosive properties	No data available.
Oxidizing properties	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

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.

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:

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

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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

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

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

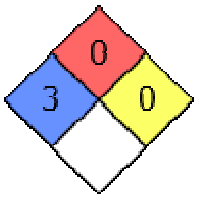
15.2 Chemical Safety Assessment

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	

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 supplyier.

16.2 Preparation information

Aiken Chemical Company, Inc.
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800-828-1860
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