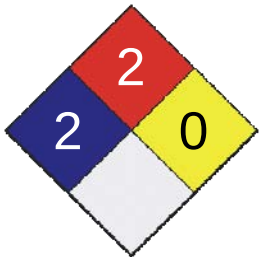
MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product Name	**BRASSO® Metal Polish**
CAS #	Mixture
	This MSDS is designed for workplace employees, emergency personnel and for other conditions and situations where there is a greater potential for large-scale or prolonged exposure, in accordance with requirements of the U.S. Government's Occupational Safety and Health Administration (OSHA). **This MSDS is not applicable for consumer use of our products. For consumer use, all precautionary and first aid language is provided on the product label in accordance with the applicable government regulation.**
Product Use	Metal Polish

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	*	2
Flammability		2
Physical Hazard		0
Personal Protection		B



2. Hazards Identification

Emergency overview	CAUTION EYE IRRITANT. May be irritating to skin. Avoid contact with eyes and skin. KEEP OUT OF REACH OF CHILDREN.
Potential short term health effects	
Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.
Eyes	Severely irritating to eyes. Risk of serious damage to eyes. Avoid eye contact.
Skin	Slightly irritating to the skin. Not expected to be a skin sensitizer. Avoid skin contact.
Inhalation	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	Health injuries are not known or expected under normal use.
Target organs	Blood. Eyes. Liver. Respiratory system. Skin.
Chronic effects	The finished product is not expected to have chronic health effects.
Signs and symptoms	Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
OSHA Regulatory Status	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
Potential environmental effects	See section 12.

3. Composition / Information on Ingredients

Ingredient(s)	CAS #	Percent
Ammonium hydroxide	1336-21-6	2.5 - 10
Limestone	1317-65-3	10 - 20
Ammonium oxalate	6009-70-7	1 - 2.5
Isopropanol	67-63-0	1 - 2.5

4. First Aid Measures

First aid procedures

Eye contact In case of contact with eyes, rinse eyes IMMEDIATELY with plenty of water. If persistent irritation occurs, seek medical advice. Check for and remove any contact lenses.

Skin contact In case of skin contact, wash area thoroughly with water. Wash clothing before reuse. Obtain medical attention if irritation persists.

Inhalation Move exposed person to fresh air. Get medical attention immediately.

Ingestion Call medical doctor or poison control center immediately. Wash out mouth with water. DO NOT INDUCE VOMITING. Never give anything by mouth to an unconscious person.

Notes to physician Treat patient symptomatically.

General advice Keep away from sources of ignition. No smoking. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire Fighting Measures

Flammable properties Combustible by OSHA criteria.

Extinguishing media

Suitable extinguishing media Dry chemical. Carbon dioxide. Foam. Fog.

Unsuitable extinguishing media Not available

Protection of firefighters

Specific hazards arising from the chemical Not available

Protective equipment for firefighters Firefighters should wear full protective clothing including self contained breathing apparatus.

Hazardous combustion products May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Some metallic oxides.

Explosion data

Sensitivity to mechanical impact Not available

Sensitivity to static discharge Not available

6. Accidental Release Measures

Personal precautions Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.

Environmental precautions Do not discharge into lakes, streams, ponds or public waters.
Advise authorities if product has penetrated drains, sewers or water pipes.

Methods for containment Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up Remove sources of ignition. Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills to original containers for re-use.

7. Handling and Storage

Handling

Ensure adequate ventilation.
Avoid contact with eyes, skin and clothing.
Avoid breathing mists or vapors. Use good industrial hygiene practices in handling this material.
When using do not eat or drink.
Wash thoroughly after handling.
Remove sources of ignition.
Not for use on silver, lacquered, painted or antiqued-finished surfaces.

Storage

Keep out of reach of children.
Keep from freezing.
Do not store at temperatures above 120°F (49°C).
Keep container tightly closed.
Store away from direct sunlight and incompatible materials.

8. Exposure Controls / Personal Protection

Exposure limits

Ingredient(s)	Exposure Limits
Ammonium hydroxide	**ACGIH-TLV** Not established **OSHA-PEL** Not established
Ammonium oxalate	**ACGIH-TLV** TWA: 1 mg/m3 **OSHA-PEL** TWA: 1 mg/m3
Isopropanol	**ACGIH-TLV** TWA: 200 ppm STEL: 400 ppm **OSHA-PEL** TWA: 400 ppm
Limestone	**ACGIH-TLV** TWA: 5 mg/m3 **OSHA-PEL** TWA: 15 mg/m3

Engineering controls

General ventilation normally adequate.

Personal protective equipment

Consult the product label for special protection or precautions that have been identified for using this product under directed consumer use conditions. The following recommendations are given for workplace employees, emergency personnel and for other conditions and situations where there is a greater potential for large-scale or prolonged exposure.

Eye / face protection

Avoid contact with eyes. If splashing is likely to occur or for occupational exposures, wear appropriate eye protection.
Emergency responders should wear full eye and face protection.

Hand protection

Wear impervious gloves where the potential for contact with the liquid is possible.
Emergency responders should wear impermeable gloves.

Skin and body protection

As required by employer code.
Usual safety precautions while handling the product will provide adequate protection against injury or irritation.
Follow label directions carefully.

Respiratory protection

No special requirements under normal use conditions. Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
Emergency responders should wear self-contained breathing apparatus (SCBA) to avoid inhalation of vapours generated by this product during a spill or other clean-up operations.

General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product. Avoid contact with eyes, skin and clothing.

9. Physical and Chemical Properties

Appearance	Liquid
Color	Light tan
Form	Liquid
Odor	ammoniacal
Odor threshold	Not available
Physical state	Liquid
pH	9.6 - 10.2
Freezing point	Not available
Boiling point	Not available
Pour point	Not available
Evaporation rate	Not available
Flash point	105 °F (40.55 °C) Tag Closed Cup
Auto-ignition temperature	Not available
Flammability limits in air, lower, % by volume	Not available
Flammability limits in air, upper, % by volume	Not available
Vapor pressure	Not available
Vapor density	Not available
Specific gravity	1.104 - 1.140
Octanol/water coefficient	Not available
Solubility (H2O)	Insoluble
VOC (Weight %)	Not available
Viscosity	Viscous
Percent volatile	Not available

10. Stability and Reactivity

Reactivity	DO NOT MIX WITH BLEACH or use in conjunction with other household products.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Avoid high temperatures. Do not mix with other chemicals. Excessive heat and moisture. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible materials	Not for use on silver, lacquered, painted or antiqued finished surfaces.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Some metallic oxides.

11. Toxicological Information

Component analysis - LC50

Ingredient(s)	LC50
Ammonium hydroxide	Not available
Ammonium oxalate	Not available
Isopropanol	16970 mg/l/4h rat
Limestone	Not available

Component analysis - Oral LD50

Ingredient(s)	LD50
Ammonium hydroxide	350 mg/kg rat
Ammonium oxalate	70 mg/kg human
Isopropanol	4396 mg/kg rat
Limestone	6450 mg/kg rat

Effects of acute exposure

Eye	Severely irritating to eyes. Risk of serious damage to eyes. Avoid eye contact.
Skin	Slightly irritating to the skin. Not expected to be a skin sensitizer. Avoid skin contact.
Inhalation	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	Health injuries are not known or expected under normal use.
Sensitization	The finished product is not expected to have chronic health effects.
Chronic effects	The finished product is not expected to have chronic health effects.
Carcinogenicity	The finished product is not expected to have chronic health effects.
Mutagenicity	The finished product is not expected to have chronic health effects.
Reproductive effects	The finished product is not expected to have chronic health effects.
Teratogenicity	The finished product is not expected to have chronic health effects.
Name of Toxicologically Synergistic Products	Not available

12. Ecological Information

Ecotoxicity Components of this product have been identified as having potential environmental concerns.

Ecotoxicity - Freshwater Algae - Acute Toxicity Data

Isopropanol	67-63-0	96 Hr EC50 Desmodesmus subspicatus: >1000 mg/L; 72 Hr EC50 Desmodesmus subspicatus: >1000 mg/L

Ecotoxicity - Freshwater Fish - Acute Toxicity Data

Ammonium hydroxide	1336-21-6	96 Hr LC50 Pimephales promelas: 8.2 mg/L
Isopropanol	67-63-0	96 Hr LC50 Pimephales promelas: 9640 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 11130 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: >1400000 µg/L

Ecotoxicity - Water Flea - Acute Toxicity Data

Ammonium hydroxide	1336-21-6	48 Hr EC50 water flea: 0.66 mg/L; 48 Hr EC50 Daphnia pulex: 0.66 mg/L
Isopropanol	67-63-0	48 Hr EC50 Daphnia magna: 13299 mg/L

Persistence / degradability	Not available
Bioaccumulation / accumulation	Not available
Mobility in environmental media	Not available
Environmental effects	Not available
Aquatic toxicity	Not available
Partition coefficient	Not available
Chemical fate information	Not available

13. Disposal Considerations

Disposal instructions	Dispose in accordance with all applicable regulations. Empty container can be disposed of as household trash or rinsed and recycled where appropriate.
Waste from residues / unused products	Not available
Contaminated packaging	Not available

14. Transport Information

U.S. Department of Transportation (DOT)

UN1987, Alcohols, n.o.s. (propan-2-ol), Class 3, PG III, Limited Quantity

Transportation of Dangerous Goods (TDG - Canada)

UN1987, ALCOHOLS, N.O.S. (propan-2-ol), Class 3, PG III, Limited Quantity

IMDG (Marine Transport)

UN1987, ALCOHOLS, N.O.S.. (propan-2-ol), Class 3, PG III

IATA/ICAO (Air)

UN1987, Alcohols, n.o.s. (propan-2-ol), Class 3, PG III

15. Regulatory Information

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

US Federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. - CAA (Clean Air Act) - Reactivity Factors for VOCs in Aerosol Coatings

Isopropanol	67-63-0	0.71 G Ozone/g VOC Reactivity Factor

U.S. - CAA (Clean Air Act) - Volatile Organic Compounds (VOCs) in SOCMI

Isopropanol	67-63-0	Present

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

Ammonium hydroxide	1336-21-6	1000 Lb final RQ; 454 kg final RQ
Ammonium oxalate	6009-70-7	5000 Lb final RQ (listed under Ammonium oxalate); 2270 kg final RQ (listed under Ammonium oxalate)

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

Isopropanol	67-63-0	1.0 % de minimis concentration (only if manufactured by the strong acid process, no supplier notification)

U.S. - CWA (Clean Water Act) - Hazardous Substances

Ammonium hydroxide	1336-21-6	Present
Ammonium oxalate	6009-70-7	Present

CERCLA (Superfund) reportable quantity

Ammonium hydroxide: 1000.0000
Ammonium oxalate: 5000.0000
Benzene, ethyl-: 1000.0000
Naphthalene: 100.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

Clean Water Act (CWA) Hazardous substance

State regulations This product is not subject to warning labeling under the California Proposition 65 regulation.

U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances

Ammonium hydroxide	1336-21-6	Present (refers to solutions >=4%)
Ammonium oxalate	6009-70-7	Present
Isopropanol	67-63-0	Present

U.S. - Louisiana - Reportable Quantity List for Pollutants

Ammonium hydroxide	1336-21-6	1000 Lb final RQ; 454 kg final RQ
Ammonium oxalate	6009-70-7	5000 Lb final RQ (listed under Ammonium oxalate); 2270 kg final RQ (listed under Ammonium oxalate)

U.S. - Massachusetts - Right To Know List

Ammonium hydroxide	1336-21-6	Present
Ammonium oxalate	6009-70-7	Present
Isopropanol	67-63-0	Present
Limestone	1317-65-3	Present

U.S. - Minnesota - Hazardous Substance List

Isopropanol	67-63-0	Present
Limestone	1317-65-3	Present (dust)

U.S. - New Jersey - Right to Know Hazardous Substance List

Ammonium hydroxide	1336-21-6	sn 0103
Isopropanol	67-63-0	sn 1076
Limestone	1317-65-3	sn 4001

U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

Ammonium hydroxide	1336-21-6	1000 Lb RQ (air); 100 lb RQ (land/water)
Ammonium oxalate	6009-70-7	5000 Lb RQ (air); 100 lb RQ (land/water)

U.S. - Pennsylvania - RTK (Right to Know) List

Ammonium hydroxide	1336-21-6	Environmental hazard
Ammonium oxalate	6009-70-7	Environmental hazard
Isopropanol	67-63-0	Environmental hazard
Limestone	1317-65-3	Present

U.S. - Rhode Island - Hazardous Substance List

Isopropanol	67-63-0	Toxic; Flammable
Limestone	1317-65-3	Toxic

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

Disclaimer This product should only be used as directed on the label and for the purpose intended. To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. 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.

Further information BRASSO® Metal Polish, 8 fl oz - 8043677v1.0

Issue date 28-May-2013

Effective date 15-May-2013

Other information For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.