LadleMax AMG HP SL

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 4/28/2023 Revision date: 4/28/2023 Supersedes: 11/11/2020

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : LadleMax AMG HP SL
CAS-No. : Mixture
Product code : 7271
Other means of identification : Resin Bonded Alumina Magnesia-Carbon Brick

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Refractory Brick
Recommended use : Industrial use

1.3. Supplier

Resco Products, Inc.
One Robinson Plaza, Suite 300
6600 Steubenville Pike
Pittsburgh, PA, 15205
United States
412-494-4491
SDS@RescoProducts.com - WWW.RescoProducts.com

1.4. Emergency telephone number

Emergency number : EMERGENCY ONLY (CHEMTREC) USA & Canada 1-800-424-9300
Outside USA & Canada +1 703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Carcinogenicity Category 1A H350 May cause cancer (Inhalation, Dust when sawing or tear out)
Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger
Hazard statements (GHS US) : H350 - May cause cancer (Inhalation, Dust when sawing or tear out)
Precautionary statements (GHS US) : P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear eye protection, protective gloves, Safety shoes.
P308+P313 - If exposed or concerned: Get medical advice/attention.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
aluminium oxide, non-fibrous	CAS-No.: 1344-28-1	50 – 75	Not classified
Magnesium Oxide	CAS-No.: 1309-48-4	20 – 50	Not classified
graphite	CAS-No.: 7782-42-5	1 – 5	Not classified
Phenolic Resin	CAS-No.: 108-95-2	1 – 5	Not classified
Aluminum - metal powder	CAS-No.: 7429-90-5	1 – 5	Not classified
carbon black	CAS-No.: 1333-86-4	1 – 5	Carc. 2, H351
cristobalite	CAS-No.: 14464-46-1	0.5 – 1	Carc. 1A, H350

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.

First-aid measures after inhalation : Dust when sawing or tear out. Remove the victim into fresh air.

First-aid measures after skin contact : Gently wash with plenty of soap and water.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

First-aid measures after ingestion : Rinse mouth with water. Do not induce vomiting.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Dust when sawing or tear out. May cause cancer by inhalation.

Symptoms/effects after skin contact : Slight irritation.

Symptoms/effects after eye contact : Dust from sawing or tear out may irritate eye.

Symptoms/effects after ingestion : Unknown.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : No unsuitable extinguishing media known.

5.2. Specific hazards arising from the chemical

Fire hazard : Non-flammable. Do not breathe fumes from fires or vapors from decomposition.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Exercise caution when fighting any chemical fire.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus.

Other information : Product will not burn, but does contain small quantities of chemicals which can generate toxic and/or irritating vapors when initially heated. Under fire conditions hazardous combustion products such as carbon monoxide may be generated. The phenolic resin binder may undergo incomplete combustion when temperature is applied to this product. The intent of this note is as follows: (1) to apprise the customer/user of the potential for incomplete combustion, and (2) to advise that the chemical compounds produced by incomplete combustion by poor air handling practices may exceed TLV's for specific air contaminates. The specific chemical compounds witch may be produced include but are not limited to: carbon monoxide, formaldehyde, phenol, alcohols, glycols, and other solvents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Safety glasses. Protective gloves. Safety shoes.

Emergency procedures : Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Collect spillage. On land, sweep or shovel into suitable containers.

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Mechanically recover the product.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store this product in a dry location where it can be protected from the elements.

Incompatible products : Strong acids.

Incompatible materials : Oxidizing agents and strong acids.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

LadleMax AMG HP SL (Mixture)

No additional information available

Magnesium Oxide (1309-48-4)

USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	10 mg/m³ inhalable dust
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	10 mg/m³ respirable dust

Phenolic Resin (108-95-2)

No additional information available

carbon black (1333-86-4)

USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	3 mg/m³ (Inhalable fraction)

graphite (7782-42-5)

USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	2 mg/m³ (Respirable fraction)

aluminium oxide, non-fibrous (1344-28-1)

USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	1 mg/m³ respirable dust

cristobalite (14464-46-1)

USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	0.025 mg/m³ respirable dust
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	0.05 mg/m³ respirable dust

Aluminum - metal powder (7429-90-5)

USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	1 mg/m³ (Respirable fraction)

8.2. Appropriate engineering controls

Appropriate engineering controls : Dust when sawing or tear out. Provide adequate ventilation to minimize dust concentrations.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Safety shoes. Wear suitable protective clothing

Respiratory protection:

Use care during processing (cutting, sawing, etc.) to minimize generation of dust. Wear appropriate mask

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Solid in various shapes.
Color	:	Black
Odor	:	Resin Odor
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	> 2800 °F
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	Not flammable.
Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	2.7 – 3
Solubility	:	Insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong acids.

10.6. Hazardous decomposition products

The phenolic resin binder may undergo incomplete combustion when temperature is applied to this product. The intent of this note is as follows: (1) to apprise the customer/user of the potential for incomplete combustion, and (2) to advise that the chemical compounds produced by incomplete combustion by poor air handling practices may exceed TLV's for specific air contaminates. The specific chemical compounds witch may be produced include but are not limited to: carbon monoxide, formaldehyde, phenol, alcohols, glycols, and other solvents.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

Magnesium Oxide (1309-48-4)	
LD50 oral rat	> 5000 mg/kg (Rat, Literature study, Oral)
LD50 dermal rabbit	> 2000 mg/kg body weight (Rabbit, Literature study, Dermal)

carbon black (1333-86-4)	
LD50 oral rat	> 10000 mg/kg (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 28 day(s))

graphite (7782-42-5)	
LD50 oral rat	> 2000 mg/kg (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral)
LC50 Inhalation - Rat	> 2000 mg/m³ air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (dust))

aluminium oxide, non-fibrous (1344-28-1)	
LD50 oral rat	> 15900 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LC50 Inhalation - Rat	> 2.3 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s))

Skin corrosion/irritation : Not classified

Magnesium Oxide (1309-48-4)	
pH	11 (10 %)

carbon black (1333-86-4)	
pH	4 – 10 (5 %, 20 °C)

graphite (7782-42-5)	
pH	7 (1.3 %)

aluminium oxide, non-fibrous (1344-28-1)	
pH	9 – 10.5 (aqueous suspension, 33 %)

cristobalite (14464-46-1)	
pH	6 – 7

Serious eye damage/irritation : Not classified

Magnesium Oxide (1309-48-4)	
pH	11 (10 %)

carbon black (1333-86-4)	
pH	4 – 10 (5 %, 20 °C)

graphite (7782-42-5)	
pH	7 (1.3 %)

aluminium oxide, non-fibrous (1344-28-1)	
pH	9 – 10.5 (aqueous suspension, 33 %)

cristobalite (14464-46-1)	
pH	6 – 7

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : May cause cancer (Inhalation, Dust when sawing or tear out).

Phenolic Resin (108-95-2)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

Magnesium Oxide (1309-48-4)	
Viscosity, kinematic	Not applicable (solid)

carbon black (1333-86-4)	
Viscosity, kinematic	Not applicable (solid)

aluminium oxide, non-fibrous (1344-28-1)	
Viscosity, kinematic	Not applicable (solid)

Symptoms/effects after inhalation : Dust when sawing or tear out. May cause cancer by inhalation.
Symptoms/effects after skin contact : Slight irritation.
Symptoms/effects after eye contact : Dust from sawing or tear out may irritate eye.
Symptoms/effects after ingestion : Unknown.

SECTION 12: Ecological information

12.1. Toxicity

carbon black (1333-86-4)	
LC50 - Fish [1]	> 1000 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Static system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	> 5600 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 24 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	> 10000 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)

graphite (7782-42-5)	
LC50 - Fish [1]	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Static system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	> 100 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Behaviour)
EC50 72h - Algae [1]	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)
EC50 72h - Algae [2]	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Cell numbers)

aluminium oxide, non-fibrous (1344-28-1)	
LC50 - Fish [1]	> 100 mg/l (96 h, Salmo trutta, Literature study)
EC50 - Crustacea [1]	> 100 mg/l (48 h, Daphnia magna, Literature study)

12.2. Persistence and degradability

Magnesium Oxide (1309-48-4)	
Persistence and degradability	Not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

carbon black (1333-86-4)	
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

graphite (7782-42-5)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

aluminium oxide, non-fibrous (1344-28-1)	
Persistence and degradability	Not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

cristobalite (14464-46-1)	
Persistence and degradability	Mineral. Not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

Aluminum - metal powder (7429-90-5)	
Persistence and degradability	Biodegradability in soil: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

Magnesium Oxide (1309-48-4)	
Bioaccumulative potential	No bioaccumulation data available.

carbon black (1333-86-4)	
Bioaccumulative potential	Not bioaccumulative.

graphite (7782-42-5)	
Bioaccumulative potential	Not bioaccumulative.

aluminium oxide, non-fibrous (1344-28-1)	
Bioaccumulative potential	No data available.

cristobalite (14464-46-1)	
Bioaccumulative potential	No data available.

Aluminum - metal powder (7429-90-5)	
Bioaccumulative potential	No test data of component(s) available.

12.4. Mobility in soil

Magnesium Oxide (1309-48-4)	
Surface tension	No data available in the literature
Ecology - soil	No data available.

carbon black (1333-86-4)	
Surface tension	Not applicable (solid)
Ecology - soil	No (test) data on mobility of the substance available. Not toxic to plants. Not toxic to animals.

aluminium oxide, non-fibrous (1344-28-1)	
Surface tension	No data available in the literature
Ecology - soil	No data available.

cristobalite (14464-46-1)	
Ecology - soil	No data available.

Aluminum - metal powder (7429-90-5)	
Ecology - soil	Contains component(s) that adsorb(s) into the soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

Department of Transportation (DOT)

In accordance with DOT

Not regulated

Transportation of Dangerous Goods

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

Aluminum - metal powder	CAS-No. 7429-90-5	1 – 5%

Phenolic Resin (108-95-2)	
Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	1000 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	10000 lb 500lb if the substance is solid in powder form with particle size less than 100 microns, or is in solution or molten form

aluminium oxide, non-fibrous (1344-28-1)	
Not subject to reporting requirements of the United States SARA Section 313	
Note	Note: The section 313 chemical list contains "CAS # 1344-28-1 Aluminum Oxide (Fibrous forms)"; the Aluminum oxide contained in this product is non-fibrous, and thus is not a section 313 material. Only manufacturing, processing, or otherwise use of aluminum oxide in the fibrous form triggers reporting.

Aluminum - metal powder (7429-90-5)	
Note	This information must be included in all SDS's that are copied and distributed for this material.

15.2. International regulations

CANADA

Magnesium Oxide (1309-48-4)
Listed on the Canadian DSL (Domestic Substances List)

Phenolic Resin (108-95-2)
Listed on the Canadian DSL (Domestic Substances List)

graphite (7782-42-5)
Listed on the Canadian DSL (Domestic Substances List)

aluminium oxide, non-fibrous (1344-28-1)
Listed on the Canadian DSL (Domestic Substances List)

cristobalite (14464-46-1)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

carbon black (1333-86-4)
Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations

LadleMax AMG HP SL (Mixture)	
U.S. - California - Proposition 65 - Other information	This product contains crystalline silica, a chemical known to the State of California to cause cancer. This product contains carbon black, a chemical known to the State of California to cause cancer. For more information go to WWW.P65Warnings.ca.gov

carbon black (1333-86-4)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No		

cristobalite (14464-46-1)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No		

Component	State or local regulations
Magnesium Oxide (1309-48-4)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Phenolic Resin (108-95-2)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
carbon black (1333-86-4)	U.S. - New Jersey - Right to Know Hazardous Substance List
Graphite (7782-42-5)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
aluminium oxide, non-fibrous (1344-28-1)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Cristobalite (14464-46-1)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 4/28/2023

Other information : Report language name. English. In the event of any conflict between English and other language versions, the English version shall prevail.

Full text of H-phrases	
H350	May cause cancer
H351	Suspected of causing cancer

Safety Data Sheet (SDS), USA

This information and recommendations set forth herein are taken from sources believed to be accurate as of the date herein, however, Resco Products, Inc. makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.