

Material Safety Data Sheet

LM 508 Anti-Seize Compound 100G





1. Product and company identification

Product name : LM 508 Anti-Seize Compound 100G
Material uses : Lubricants
Code : 2012
Supplier/Manufacturer : LIQUI MOLY GmbH
Jerg-Wieland-Strasse 4
D-89081 Ulm-Lehr, Germany
Tel.: +49(0)731 / 1420-0
Fax: +49(0)731 / 1420-88
e-mail address of person responsible for this SDS : Not available.
Validation date : 27/09/2012.
Prepared by : Chemical Check GmbH
In case of emergency : INFOTRAC: 1-800-535-5053


2. Hazards identification

Physical state : Liquid. [Paste.]
Color : Copper.
Odor : Characteristic.


Emergency overview

Signal word : WARNING!
Hazard statements :  CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF SWALLOWED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
Precautions :  Do not ingest. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Routes of entry : Dermal contact. Eye contact. Inhalation.

Potential acute health effects

Inhalation : Irritating to respiratory system.
Ingestion : Harmful if swallowed.
Skin :  Irritating to skin. Defatting to the skin.
Eyes : Irritating to eyes.

Potential chronic health effects

Chronic effects :  Contains material that may cause target organ damage, based on animal data. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.

2. Hazards identification

- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.
- Target organs** : Contains material which may cause damage to the following organs: lungs, the nervous system, liver, gastrointestinal tract, upper respiratory tract, skin, eyes, thyroid.

Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Ingestion** : No specific data.
- Skin** : Adverse symptoms may include the following:
irritation
redness
dryness
cracking
- Eyes** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

3. Composition/information on ingredients

Name	CAS number	%
Paraffin oils	-	30-60
calcium hydrogenorthophosphate	7757-93-9	10-30
copper	7440-50-8	10-30
White mineral oil (petroleum)	8042-47-5	1-5
2,6-di-tert-butyl-p-cresol	128-37-0	0.1-1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

4. First aid measures

- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

- Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Extinguishing media**
- Suitable** : Use dry chemical powder. Sand. Foam.
- Not suitable** : Do not use water. CO₂
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
phosphorus oxides
halogenated compounds
metal oxide/oxides
nitrogen oxides
Toxic gases
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Handling

- Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage

- Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Ingredient	Exposure limits
Paraffin oils	ACGIH TLV (United States, 3/2012). TWA: 5 mg/m ³ 8 hours. Form: Inhalable fraction OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hours. Form: Mist NIOSH REL (United States, 6/2009). TWA: 5 mg/m ³ 10 hours. Form: Mist STEL: 10 mg/m ³ 15 minutes. Form: Mist OSHA PEL (United States, 6/2010). TWA: 5 mg/m ³ 8 hours.
copper	OSHA PEL 1989 (United States, 3/1989). TWA: 1 mg/m ³ , (as Cu) 8 hours. Form: Dusts and Mists TWA: 0.1 mg/m ³ , (as Cu) 8 hours. Form: Fume NIOSH REL (United States, 6/2009). TWA: 1 mg/m ³ 10 hours. Form: Dusts and Mists OSHA PEL (United States, 6/2010). TWA: 1 mg/m ³ 8 hours. Form: Dusts and Mists TWA: 0.1 mg/m ³ 8 hours. Form: Fume ACGIH TLV (United States, 3/2012). TWA: 0.2 mg/m ³ 8 hours. Form: Fume TWA: 1 mg/m ³ , (as Cu) 8 hours.
White mineral oil (petroleum)	ACGIH TLV (United States, 3/2012). TWA: 5 mg/m ³ 8 hours. Form: Inhalable fraction NIOSH REL (United States, 6/2009). TWA: 5 mg/m ³ 10 hours. Form: Mist STEL: 10 mg/m ³ 15 minutes. Form: Mist OSHA PEL (United States, 6/2010). TWA: 5 mg/m ³ 8 hours.
2,6-di-tert-butyl-p-cresol	ACGIH TLV (United States, 3/2012). TWA: 2 mg/m ³ 8 hours. Form: Inhalable fraction OSHA PEL 1989 (United States, 3/1989). TWA: 10 mg/m ³ 8 hours. NIOSH REL (United States, 6/2009). TWA: 10 mg/m ³ 10 hours.

8. Exposure controls/personal protection

Recommended monitoring procedures	: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
Engineering measures	: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Hygiene measures	:  Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
<u>Personal protection</u>	
Respiratory	: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Use appropriate respiratory protection if there is a risk of exceeding any exposure limits. Filter A2 P2.
Hands	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. 1 - 4 hours (breakthrough time): Nitrile gloves.
Eyes	: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Recommended: Tight fitting protective goggles with side shields.
Skin	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Safety shoes. Long-sleeved protective clothing.
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Physical state	: Liquid. [Paste.]
Flash point	: >100°C (>212°F)
Color	: Copper.
Odor	: Characteristic.
Melting/freezing point	: 180°C (356°F)
Density	: ~ 1.4 g/cm ³
Viscosity	: Kinematic (40°C (104°F)): >0.07 cm ² /s (>7 cSt)
Solubility	: Insoluble in the following materials: cold water.

10. Stability and reactivity

Chemical stability	: The product is stable.
Conditions to avoid	: Protect from moisture.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.

Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Paraffin oils	LC50 Inhalation Gas.	Rat	2062 ppm	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
White mineral oil (petroleum)	LD50 Oral	Rat	>5000 mg/kg	-
2,6-di-tert-butyl-p-cresol	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	890 mg/kg	-

Conclusion/Summary : Not available.

Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2,6-di-tert-butyl-p-cresol	Chronic NOAEL Oral	Rat	25 mg/kg	28 days; 7 days per week

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Paraffin oils	Eyes - Mild irritant	Rabbit	-	1 hours 100 milligrams	-

Conclusion/Summary : Not available.

Sensitizer

Product/ingredient name	Route of exposure	Species	Result
2,6-di-tert-butyl-p-cresol	skin	Human	Not sensitizing

11. Toxicological information

Conclusion/Summary

Skin : Contains: Di-iso-octyl amino methyl toluotriazole. May cause sensitization by skin contact.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Paraffin oils	A4	-	-	-	-	-
White mineral oil (petroleum)	A4	-	-	-	-	-
2,6-di-tert-butyl-p-cresol	A4	3	-	-	-	-

Mutagenicity

Product/ingredient name	Test	Experiment	Result
2,6-di-tert-butyl-p-cresol	Ames Test	Experiment: In vitro Subject: Bacteria	Negative
	476 <i>In vitro</i> Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Negative

Teratogenicity

Not available.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
2,6-di-tert-butyl-p-cresol	-	-	-	Rat - Male, Female	Oral: 100 mg/kg NOAEL	-
	-	-	-	Mouse	Oral: 500 mg/kg NOAEL	-

12. Ecological information

Ecotoxicity : This material is harmful to aquatic life with long lasting effects.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Paraffin oils copper	Acute EC50 >100 mg/l	Daphnia	48 hours
	Acute IC50 >100 mg/l	Algae	96 hours
	Acute LC50 >100 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute EC50 1100 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 2.1 µg/l Fresh water	Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute IC50 13 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute IC50 5.4 mg/l Marine water	Aquatic plants - Plantae - Exponential growth phase	72 hours
	Acute LC50 0.072 µg/l Marine water	Crustaceans - Amphipoda - Adult	48 hours
	Acute LC50 7.56 µg/l Marine water	Fish - Periophthalmus waltoni - Adult	96 hours
	Chronic NOEC 2.5 µg/l Marine water	Algae - Nitzschia closterium -	72 hours

12. Ecological information

2,6-di-tert-butyl-p-cresol	Chronic NOEC 7 mg/l Fresh water	Exponential growth phase Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 0.02 mg/l Fresh water	Crustaceans - Cambarus bartonii - Mature	21 days
	Chronic NOEC 2 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.8 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks
	Acute EC50 0.61 mg/l Acute IC50 >0.4 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 >=0.57 mg/l Acute NOEC 0.316 mg/l	Algae - Desmodesmus subspicatus Fish - Brachydanio rerio Daphnia - Daphnia magna	72 hours 96 hours 21 days

Persistence/degradability

Product/ingredient name	Test	Result	Dose	Inoculum
2,6-di-tert-butyl-p-cresol	OECD 301C Ready Biodegradability - Modified MITI Test (I)	4.5 % - 28 days	-	-

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

DOT/IMDG/IATA : Not regulated.

15. Regulatory information

- HCS Classification** : Irritating material
Target organ effects
- U.S. Federal regulations** : **TSCA 8(a) IUR Exempt/Partial exemption:** Not determined
United States inventory (TSCA 8b): Not determined.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Paraffin oils; 2,6-di-tert-butyl-p-cresol; copper; White mineral oil (petroleum)
SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
Paraffin oils: Immediate (acute) health hazard, Delayed (chronic) health hazard; 2,6-di-tert-butyl-p-cresol: Immediate (acute) health hazard, Delayed (chronic) health hazard; copper: Immediate (acute) health hazard; White mineral oil (petroleum): Immediate (acute) health hazard
Clean Water Act (CWA) 307: copper
Clean Air Act (CAA) 112 accidental release prevention: No products were found.

- Clean Air Act Section 112** : Listed
(b) Hazardous Air Pollutants (HAPs)
- Clean Air Act Section 602** : Not listed
Class I Substances
- Clean Air Act Section 602** : Not listed
Class II Substances
- DEA List I Chemicals (Precursor Chemicals)** : Not listed
- DEA List II Chemicals (Essential Chemicals)** : Not listed

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	copper	7440-50-8	10-30
Supplier notification	copper	7440-50-8	10-30

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

- Massachusetts** : The following components are listed: Paraffin oils; COPPER; BUTYLATED HYDROXYTOLUENE (BHT)
- New York** : The following components are listed: Copper
- New Jersey** : The following components are listed: Paraffin oils; COPPER; MINERAL OIL (UNTREATED and MILDLY TREATED); 2,6-DI-tert-BUTYL-p-CRESOL; PHENOL, 2, 6-BIS(1,1-DIMETHYLETHYL)-4-METHYL-
- Pennsylvania** : The following components are listed: Paraffin oils; COPPER FUME; PHENOL, 2,6-BIS (1,1-DIMETHYLETHYL)-4-METHYL-

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

15. Regulatory information

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Paraffin oils	Yes.	No.	No.	No.

Canada inventory : Not determined.

International regulations

International lists :


- Australia inventory (AICS)**: Not determined.
- China inventory (IECSC)**: Not determined.
- Japan inventory**: Not determined.
- Korea inventory**: Not determined.
- Malaysia Inventory (EHS Register)**: Not determined.
- New Zealand Inventory of Chemicals (NZIoC)**: Not determined.
- Philippines inventory (PICCS)**: Not determined.
- Taiwan inventory (CSNN)**: Not determined.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

16. Other information

Label requirements :  CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF SWALLOWED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

Hazardous Material Information System (U.S.A.) :

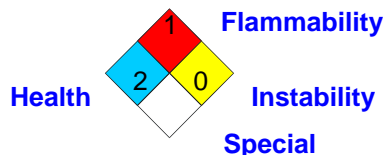
Health	*	2
Flammability		1
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :

16. Other information



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Date of issue : 27/09/2012.

Date of previous issue : 30/08/2010.

Version : 3

Indicates information that has changed from previously issued version.

Notice to reader

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.