SAFETY DATA SHEET
ASSA Låsfett

(ASSA Lock Grease)

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT
Product Name: **MOBILGREASE 28**
Product Description: Synthetic Base Stocks and Additives
Intended Use: Grease

COMPANY IDENTIFICATION
Supplier: **ASSA AB**
P.O. Box 371
S-631 05 Eskilstuna
Sweden

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

This material is regulated as a preparation.

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	EINECS / ELINCS	Concentration *	Symbols/Risk Phrases
N-PHENYL-1-NAPHTHYLAMINE	90-30-2	201-983-0	0.1 - 1%	Xn;R22, Xi;R43, N;R50/53
ALKYLATED DIPHENYL AMINES	68411-46-1	270-128-1	1 - 5%	R52/53
HYDROXYALKARYL LONG-CHAIN AKYL ESTER	2082-79-3	218-216-0	1 - 5%	R53
N-OLEYLSARCOSINE	110-25-8	203-749-3	0.1 - 1%	Xi;R38, Xi;R41, N;R50/53
PENTAERYTHRITOL	115-77-5	204-104-9	1 - 5%	None
SODIUM NITRITE	7632-00-0	231-555-9	0.1 - 1%	O;R8, T;R25, N;R50

*All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is dangerous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION: R52/53

HEALTH HAZARDS
Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

ENVIRONMENTAL HAZARDS
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Note: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION
Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

SKIN CONTACT
Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT
Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION
First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water

FIRE FIGHTING
Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Sulphur Oxides, Aldehydes, Smoke, Fume, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES
Flash Point [Method]: 232°C (450°F) [EST. FOR OIL, ASTM D-92 (COC)]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES
In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

SPILL MANAGEMENT
Land Spill: Allow spilled material to solidify and shovel it up into a suitable container for recycle or disposal. Scrape up spilled material with shovels into a suitable container for recycle or disposal.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Skim from surface

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS
Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING
Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is not a static accumulator.

STORAGE
Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard			Note	Source	Year
PENTAERYTHRITOL	Inhalable dust.	STEL	20 mg/m3			UK EH40	2005
PENTAERYTHRITOL	Inhalable dust.	TWA	10 mg/m3			UK EH40	2005
PENTAERYTHRITOL	Respirable dust.	TWA	4 mg/m3			UK EH40	2005
PENTAERYTHRITOL		TWA	10 mg/m3			ACGIH	2005

Information about recommended monitoring procedures can be obtained from the following agency(ies)/institute(s):
France;L'Institut National de Recherche et de Sécurité (INRS)
Germany; Berufsgenossenschaftliches Institut für Arbeitssicherheit (BIA)
UK; Health and Safety Executive (HSE)

ENGINEERING CONTROLS
The level of protection and types of controls necessary will vary depending upon potential exposure conditions.
Control measures to consider: No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION
Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable.

Types of respirators to be considered for this material include:
No protection is ordinarily required under normal conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly effect glove durability; inspect and replace worn or damaged gloves.

The types of gloves to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data.

The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION
Physical State: Solid
Form: semi-fluid
Colour: red
Odour: Characteristic
Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density (at 15 °C): 0.946
Flash Point [Method]: 232°C (450°F) [EST. FOR OIL, ASTM D-92 (COC)]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Vapour Density (Air = 1): N/D
Vapour Pressure: < 0.013 kPa (0.1 mm Hg) at 20°C
Evaporation Rate (N-Butyl Acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 28 cSt (28 mm²/sec) at 40°C | 5.2 cSt (5.2 mm²/sec) at 100°C
Oxidising properties: See Sections 3, 15, 16.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/D

Note: Most physical properties above are for the oil component in the material.

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidisers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity

Route of Exposure	Conclusion / Remarks
INHALATION	
Toxicity: LC50 > 5000 mg/m3	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
INGESTION	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: Data available.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Irritation: Data available.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

CHRONIC/OTHER EFFECTS
Contains:
Synthetic base oils: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitising in test animals and humans.
Phenyl-alpha-naphthylamine (PAN): Undiluted PAN is a skin sensitizer. Human testing with lubricants containing 1.0% PAN caused no reactions indicative of sensitization.

Additional information is available by request.

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY
Material –
Expected to be harmful to aquatic organisms.
May cause long-term adverse effects in the aquatic environment.

MOBILITY
Base oil component –
Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY
Biodegradation:
Base oil component --
Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL
Base oil component –
Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS
Suitable routes of disposal are supervised incineration, preferentially with energy recovery, or appropriate recycling methods in accordance with applicable regulations and material characteristics at the time of disposal.

REGULATORY DISPOSAL INFORMATION

European Waste Code: 12 01 12

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

This material is considered as hazardous waste pursuant to Directive 91/689/EEC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of that Directive applies.

Empty Container Warning (where applicable): Empty containers may retain residue and can be dangerous. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 14 TRANSPORT INFORMATION

LAND (ADR/RID) : Not Regulated for Land Transport

INLAND WATERWAYS (ADNR) : Not Regulated for Inland Waterways Transport

SEA (IMDG) : Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA) : Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

Material is dangerous as defined by the EU Dangerous Substances/Preparations Directives.

CLASSIFICATION: Dangerous for the environment.

EU LABELING: No symbol required.

Nature of Special Risk: R52/53; Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Advice: S61; Avoid release to the environment. Refer to special instructions/safety data sheets.

Contains: N-PHENYL-1-NAPHTHYLAMINE May produce an allergic reaction.

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Complies with the following national/regional chemical inventory requirements:
AICS, IECSC, DSL, EINECS, KECI, TSCA

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable
KEY TO THE RISK CODES CONTAINED IN SECTION 2 AND 3 OF THIS DOCUMENT (for information only):
R8; Contact with combustible material may cause fire.
R22; Harmful if swallowed.
R25; Toxic if swallowed.
R38; Irritating to skin.
R41; Risk of serious damage to eyes.
R43; May cause sensitisation by skin contact.
R50; Very toxic to aquatic organisms.
R50/53; Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53; Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R53; May cause long-term adverse effects in the aquatic environment.

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
No revision information is available.