SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Polarshine 20 Polishing Compound

1.2 Relevant identified uses of the substance or mixture and uses advised against

1.2.1 Relevant uses

Polishing agent

1.2.2 Uses advised against

For all uses not specified in SECTION 1.2.1

1.3 Details of the supplier of the safety data sheet

Company

Mirka Ltd
Pensalavägen 210
66850 Jeppo / FINLAND
Phone +358 20 760 2111
Homepage www.mirka.com
E-mail sales@mirka.com

Address enquiries to

Technical information sales@mirka.com

Safety Data Sheet sdb@chemiebuero.de (No dispatch of safety data sheets)

Safety data sheets are available from the supplier.

1.4 Emergency telephone number

Advisory body

For Chemical Emergency: spill, leak, fire, exposure or accident call CHEMTREC
day or night:
Within USA and Canada: +1 800 424 9300
Outside USA and Canada: +1 703 527 3887 (collect calls accepted)
Multilingual response for emergency calls only. Non-emergency calls cannot be serviced at these numbers.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Flam. Liq. 4: H227 Combustible Liquid.

2.2 Label elements

The product is classified as hazardous in accordance to OSHA Standard 29 CFR 1910.1200 (HCS 2012)

Hazard pictograms

Signal word WARNING

Hazard statements H227 Combustible Liquid.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P210 Keep away from flames and hot surfaces. No smoking.
P264 Wash hands thoroughly after handling.
P280 Wear protective clothing/eye protection/face protection.
P370+P378 In case of fire: Use Water spray, Carbon dioxide, Foam, Dry chemical to extinguish.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container to in accordance with local/national/international regulation.

2.3 Other hazards

Human health dangers
Has a degreasing effect on the skin.
Contains no ingredients with endocrine-disrupting properties (≥ 0,1%).

Environmental hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Contains no ingredients with endocrine-disrupting properties (≥ 0,1%).

Other hazards
Further hazards were not determined with the current level of knowledge.

SECTION 3: Composition / Information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

The product is a mixture.

Range [%]	Substance
20 - < 40	Aluminium oxide
	CAS: 1344-28-1
10 - < 20	Distillates (petroleum), hydrotreated light
	CAS: 64742-47-8
5 - < 10	White mineral oil (petroleum)
	CAS: 8042-47-5
0.1 - < 1	2,2'-Iminodiethanol
	CAS: 111-42-2

Comment on component parts
Substances of Very High Concern - SVHC: substances are not contained or are below 0,1%.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information
Take off contaminated clothing and wash before reuse.

Inhalation
Ensure supply of fresh air.

Skin contact
When in contact with the skin, clean with soap and water.
If skin irritation or rash occurs: Get medical advice/attention.

Eye contact
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Ingestion
Get medical advice.
Do not induce vomiting.
Rinse out mouth and give plenty of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
Forward this sheet to the doctor.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media Foam, dry powder, water spray jet, carbon dioxide

Extinguishing media that must not be used Full water jet.

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.
Not combusted hydrocarbons.

5.3 Advice for firefighters

Do not inhale explosion and/or combustion gases.
Use self-contained breathing apparatus.

Collect contaminated firefighting water separately, must not be discharged into the drains.
Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
High risk of slipping due to leakage/spillage of product.
Use personal protective equipment.

6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).
Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Take up with absorbent material (e.g. general-purpose binder).
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.
Avoid spilling in enclosed areas.
Use solvent-resistant equipment.
During mechanical processing vacuuming at processing machines is necessary.
Avoid contact with eyes and skin. Use personal protective equipment.

Keep away from all sources of ignition - Refrain from smoking.

Do not eat, drink or smoke when using this product.
Wash hands before breaks and after work.
Use barrier skin cream.

7.2 Conditions for safe storage, including any incompatibilities

Provide solvent-resistant and impermeable floor.
Prevent penetration into the ground.
Keep only in original container.

Do not store together with oxidizing agents.

Protect from heat/overheating.
Keep container in a well-ventilated place.
Keep container tightly closed.
Keep away from frost.
Prevent drying-out.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (US)

Substance
White mineral oil (petroleum)
CAS: 8042-47-5
Long-term exposure: 5 mg/m³, TWA (as mist)
Aluminium oxide
CAS: 1344-28-1
Long-term exposure: 15 mg/m³, Total dust
Distillates (petroleum), hydrotreated light
CAS: 64742-47-8
Long-term exposure: 184 ppm, 1200 mg/m³, Vapor, Total Hydrocarbons, RCP - Reciprocal calculation procedure (Supplier)

DNEL

Substance
White mineral oil (petroleum), CAS: 8042-47-5
Industrial, inhalative, Long-term - systemic effects, 164.56 mg/m³
Industrial, dermal, Long-term - systemic effects, 217.05 mg/kg bw/day
general population, oral, Long-term - systemic effects, 25 mg/kg bw/day
general population, dermal, Long-term - systemic effects, 93.02 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 34.78 mg/m³
2,2'-Iminodiethanol, CAS: 111-42-2
Industrial, dermal, Long-term - systemic effects, 0.13 mg/kg bw/day
Industrial, inhalative, Long-term - local effects, 0.5 mg/m³
Industrial, inhalative, Long-term - systemic effects, 0.75 mg/m³
general population, oral, Long-term - systemic effects, 0.06 mg/kg bw/day
general population, dermal, Long-term - systemic effects, 0.07 mg/kg bw/day
general population, inhalative, Long-term - local effects, 0.125 mg/m³
general population, inhalative, Long-term - systemic effects, 0.125 mg/m³

PNEC

Substance
2,2'-Iminodiethanol, CAS: 111-42-2
oral (food), 1.04 mg/kg
soil, 1.63 mg/kg soil dw
sediment (seawater), 0.009 mg/kg sediment dw
sediment (freshwater), 0.096 mg/kg sediment dw
sewage treatment plants (STP), 100 mg/L
seawater, 0.002 mg/L
freshwater, 0.021 mg/L

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
Eye protection	Safety glasses. (EN 166:2001)
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. In full contact: > 0.4 mm: Butyl rubber, >480 min (EN 374-1/-2/-3). In splash contact: > 0.4 mm: Nitrile rubber, >480 min (EN 374-1/-2/-3).
Skin protection	Protective clothing (EN 340) Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier. Do not inhale dust. Do not inhale vapors. Avoid contact with eyes and skin.
Respiratory protection	In the event of occupational exposure limits being exceeded or of inadequate ventilation: wear appropriate respiratory protection. Short term: filter apparatus, combination filter A-P1. (DIN EN 14387)
Thermal hazards	No information available.
Delimitation and monitoring of the environmental exposition	Comply with applicable environmental regulations limiting discharge to air, water and soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Form	pasty
Color	white
Odor	odorless
Odor threshold	No information available.
pH-value	7.0 - 9.0
pH-value [1%]	No information available.
Boiling point [°C]	No information available.
Flash point [°C]	> 65 °C / >149 °F
Flammability [°C]	Not applicable
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Oxidizing properties	No
Vapor pressure/gas pressure [kPa]	No information available.
Density [g/cm³]	1.1 - 1.2
Relative density	No information available.
Bulk density [kg/m³]	Not applicable
Solubility in water	Miscible
Solubility other solvents	No information available.
Partition coefficient [n-octanol/water]	No information available.
Kinematic viscosity	>20.5 mm²/s (40°C/ 104°F)
Relative vapour density	No information available.
Evaporation speed	No information available.
Melting point [°C]	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature [°C]	No information available.
Particle characteristics	No information available.

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Reactions with oxidizing agents.
Avoid drying up.

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

See SECTION 10.3.

10.6 Hazardous decomposition products

No decomposition if used and stored according to specifications.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

Product
ATE-mix, oral, > 5000 mg/kg

Substance
White mineral oil (petroleum), CAS: 8042-47-5
LD50, oral, Rat, > 5000 mg/kg
Distillates (petroleum), hydrotreated light, CAS: 64742-47-8
LD50, oral, Rat, > 5000 mg/kg
2,2'-Iminodiethanol, CAS: 111-42-2
LD50, oral, Rat, 676 - 2500 mg/kg bw
Aluminium oxide, CAS: 1344-28-1
LD50, oral, Rat, > 10000 mg/kg

Acute dermal toxicity

Product
ATE-mix, dermal, > 5000 mg/kg

Substance
White mineral oil (petroleum), CAS: 8042-47-5
LD50, dermal, Rabbit, > 2000 mg/kg
Distillates (petroleum), hydrotreated light, CAS: 64742-47-8
LD50, dermal, Rabbit, > 5000 mg/kg
2,2'-Iminodiethanol, CAS: 111-42-2
LD50, dermal, Rabbit, 12200-12970 mg/kg

Acute inhalational toxicity

Product
Based on the information available, the classification criteria have not been fulfilled.

Substance
White mineral oil (petroleum), CAS: 8042-47-5
LC50, inhalative, Rat, 5 mg/L/4h
Distillates (petroleum), hydrotreated light, CAS: 64742-47-8
LC50, inhalative, Rat, > 5000 mg/m³
2,2'-Iminodiethanol, CAS: 111-42-2
LC0, inhalative, Rat, 3.35 mg/L (4h)
Aluminium oxide, CAS: 1344-28-1
LC50, inhalative, Rat, 2.3 mg/L/4h

Serious eye damage/irritation Based on the information available, the classification criteria have not been fulfilled.

Substance
White mineral oil (petroleum), CAS: 8042-47-5
no adverse effect observed
2,2'-Iminodiethanol, CAS: 111-42-2

Eye, Causes serious eye damage.
Aluminium oxide, CAS: 1344-28-1
non-irritating

Skin corrosion/irritation Based on the information available, the classification criteria have not been fulfilled.

Substance
White mineral oil (petroleum), CAS: 8042-47-5
no adverse effect observed
2,2'-Iminodiethanol, CAS: 111-42-2
dermal, irritant
Aluminium oxide, CAS: 1344-28-1
non-irritating

Respiratory or skin sensitisation Based on the information available, the classification criteria have not been fulfilled.

Substance
White mineral oil (petroleum), CAS: 8042-47-5
no adverse effect observed
2,2'-Iminodiethanol, CAS: 111-42-2
dermal, non-sensitizing
Aluminium oxide, CAS: 1344-28-1
dermal, non-sensitizing
inhalative, non-sensitizing

Specific target organ toxicity — single exposure Based on the information available, the classification criteria have not been fulfilled.

Substance
Aluminium oxide, CAS: 1344-28-1
inhalative, non-irritating

Specific target organ toxicity — repeated exposure Based on the information available, the classification criteria have not been fulfilled.

Substance
2,2'-Iminodiethanol, CAS: 111-42-2
LOAEL, oral, Rat, 160 - 320 ppm, adverse effect observed
LOAEL, oral, Rat, 14 - 25 mg/kg bw/day, adverse effect observed

Mutagenicity Based on the information available, the classification criteria have not been fulfilled.

Substance
Aluminium oxide, CAS: 1344-28-1
in vivo, negativ
in vitro, negativ

Reproduction toxicity Based on the information available, the classification criteria have not been fulfilled.

Substance
White mineral oil (petroleum), CAS: 8042-47-5
NOAEL, oral, Rat, 1000 mg/kg bw/d (Effect on fertility), no adverse effect observed
2,2'-Iminodiethanol, CAS: 111-42-2
inhalative, adverse effect observed

dermal, adverse effect observed
oral, adverse effect observed
Aluminium oxide, CAS: 1344-28-1
NOAEL, oral, Rat, 1004 mg/kg bw/d (Effect on developmental toxicity), no adverse effect observed
NOAEL, oral, Rat, 567 mg/kg bw/d (Effect on fertility), no adverse effect observed

Carcinogenicity Based on the information available, the classification criteria have not been fulfilled.

Substance
White mineral oil (petroleum), CAS: 8042-47-5
NOAEL, oral, Rat, 1200 mg/kg bw/day, no adverse effect observed

Aspiration hazard Based on the information available, the classification criteria have not been fulfilled.

General remarks Frequent persistent contact with the skin can cause skin irritation.

Toxicological data of complete product are not available.

SECTION 12: Ecological information

12.1 Toxicity

Substance
White mineral oil (petroleum), CAS: 8042-47-5
LL50, (48h), Daphnia magna, 100 mg/L
LL50, (96h), fish, 100 - 10000 mg/L
2,2'-Iminodiethanol, CAS: 111-42-2
LC50, (96h), Pimephales promelas, 1460 mg/l (DIN 38412-8)
EC50, (96h), Pseudokirchneriella subcapitata, 2.2 mg/l
EC50, (48h), Daphnia magna, 10-180 mg/l
IC50, (72h), Skeletonema costatum, 548 mg/l
IC50, (72h), Selenastrum capricornutum, 3.3-3.6 mg/l

12.2 Persistence and degradability

Behaviour in environment compartments No information available.

Behaviour in sewage plant No information available.

Biological degradability CAS 64742-47-8: >= 60%. 28d (OECD 301 F) - The product is readily biodegradable.
CAS 8042-47-5: The product is not readily biodegradable.
CAS 1344-28-1: The methods for determining the boilogical degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

Spillages may penetrate the soil causing ground water contamination.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Endocrine disrupting properties

Contains no ingredients with endocrine-disrupting properties.

12.7 Other adverse effects

Ecological data of complete product are not available.
Do not discharge product unmonitored into the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Dispose of as hazardous waste.
Coordinate disposal with the authorities if necessary.

Contaminated packaging

Uncontaminated packaging may be taken for recycling.
Packaging that cannot be cleaned should be disposed of as for product.

RCRA Hazard Class (40CFR 261)

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Consult your local or regional authorities.

SECTION 14: Transport

14.1 UN number

Transport by land according to ADR/RID	Not applicable
Inland navigation (ADN)	Not applicable
Marine transport in accordance with IMDG	Not applicable
Air transport in accordance with IATA	Not applicable
DOT Road Shipment Information (49 CFR)	NA1993

14.2 UN proper shipping name

Transport by land according to ADR/RID	NO DANGEROUS GOODS
Inland navigation (ADN)	NO DANGEROUS GOODS
Marine transport in accordance with IMDG	NOT CLASSIFIED AS "DANGEROUS GOODS"
Air transport in accordance with IATA	NOT CLASSIFIED AS "DANGEROUS GOODS"
DOT Road Shipment Information (49 CFR)	UN/NA NA1993 Combustible liquid, n.o.s. Footnote: This material is not regulated under 49 CFR in a container of 119 gallon capacity or less when transported soleley by land. Comb liq III

14.3 Transport hazard class(es)

Transport by land according to ADR/RID	Not applicable
Inland navigation (ADN)	Not applicable
Marine transport in accordance with IMDG	Not applicable
Air transport in accordance with IATA	Not applicable
DOT Road Shipment Information (49 CFR)	Comb liq

14.4 Packing group

Transport by land according to ADR/RID	Not applicable
Inland navigation (ADN)	Not applicable
Marine transport in accordance with IMDG	Not applicable
Air transport in accordance with IATA	Not applicable
DOT Road Shipment Information (49 CFR)	III

14.5 Environmental hazards

Transport by land according to ADR/RID	No
Inland navigation (ADN)	No
Marine transport in accordance with IMDG	No
Air transport in accordance with IATA	No
DOT Road Shipment Information (49 CFR)	No

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

US Regulations

National regulations	29 CFR 1910.1200-HCS 2012, OSHA-PEL, ACGIH-TLV, NTP, IARC, SARA Title III, NFPA, TSCA, California - Prop. 65
- SARA, 302	This product is not classified as hazardous under SARA 302.
- SARA, 311	This product is classified as hazardous under SARA 311 - Flammable (liquids) .
- SARA, 313	This product contain one ingredient regulated under this list(40 CFR part 372.65): Aluminum oxide (fibrous forms) (CAS 1344-28-1).
- CA Proposition 65	 WARNING: This product can expose you to chemicals including "N,N-Diethanolamine, CAS 111-42-2", which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.
- TSCA	All chemical substances in this material are included on or exempted from listing on the TSCA Inventory.
- FDA	No information available.
American Conference of Governmental Industrial Hygienists - ACGIH	N.N-Diethanolamine. CAS 111-42-2: A3: Confirmed Animal Carcinogen
International Agency for Research on Cancer IARC	IARC: Group 3 Triethanolamine. CAS 102-71-6 IARC: Group 2B carcinogen N.N-Diethanolamine. CAS 111-42-2
National Toxicology Program - 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.
HAP-VOC	VOC-content: ca. 16%
Transport-regulations	DOT-Classification, ADR (2021); IMDG-Code (2021, 40. Amdt.); IATA-DGR (2022)

15.2 Chemical safety assessment

For this product a chemical safety assessment has not been carried out.

SECTION 16: Other information

16.1 Abbreviations and acronyms:

ACGIH = American Conference of Governmental Industrial Hygienists;
ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route;
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses;
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure;
CAS = Chemical Abstracts Service;
CERCLA = Comprehensive Environmental Response, Compensation and Liability Act;
CFR = Code of Federal Regulations;
CPR = Controlled Products Regulations;
DMEL = Derived Minimum Effect Level;
DNEL = Derived No Effect Level;
DOT = Department of Transportation;
EC50 = Median effective concentration;
EPA = Environmental Protection Agency;
GHS = Globally Harmonized System of Classification and Labelling of Chemicals;
IATA = International Air Transport Association;
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk;
IC50 = Inhibition concentration, 50%;
IMDG = International Maritime Code for Dangerous Goods;
IARC = International Agency of Research on Cancer;
IATA = International Air Transport Association;
TSCA = Toxic Substance Control Act;
HMIS = Hazardous Materials Identification System;
NFPA = National Fire Protection Association;
NIOSH = National Institute for Occupational Safety and Health;
OSHA = Occupational Safety and Health Administration;
LC50 = Lethal concentration, 50%;
LD50 = Median lethal dose, 50%;
MARPOL = International Convention for the Prevention of Marine Pollution from Ships;
PBT = Persistent, Bioaccumulative and Toxic substance;
PNEC = Predicted No-Effect Concentration;
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals;
SARA = Superfund Amendments and Reauthorization Act;
TLV®/TWA = Threshold limit value – time-weighted average;
TLV®STEL = Threshold limit value – short-time exposure limit;
VOC = Volatile Organic Compounds;
vPvB = very Persistent and very Bioaccumulative;

16.2 Ratings

NFPA Ratings

TOP, FLAMMABILITY: 2 - Moderate Hazard
LEFT, HEALTH: 1 - Slight Hazard
RIGHT, REACTIVITY: 0 - Minimal Hazard
BOTTOM, SPECIAL NOTICE: -

HMIS Ratings

HEALTH	1
FLAMMABILITY	2
PHYSICAL HAZARD	0
PERSONAL PROTECTION	X

1 - Slight Hazard
2 - Moderate Hazard
0 - Minimal Hazard
X - Personal protection rating to be supplied by user depending on use conditions

PERSONAL PROTECTION:

A - Safety Glasses

B - Safety Glasses and Gloves

C - Safety Glasses, Gloves and Protection Apron

D - Face Shield, Gloves and Protection Apron

E - Safety Glasses, Gloves and Dust Respirator

F - Safety Glasses, Gloves, Protection Apron and Dust Respirator

G - Safety Glasses, Gloves and Vapor Respirator.

H - Splash Goggles, Gloves, Protection Apron and Vapor Respirator.

I - Safety Glasses, Gloves, Dust Respirator and Vapor Respirator.

J - Splash Goggles, Gloves, Protection Apron, Dust Respirator and Vapor Respirator.

K - Airline Mask or Hood, Gloves, Full Suit and Boots.

X - Personal protection rating to be supplied by user depending on use conditions

Modified position

SECTION 2 been added: 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.

SECTION 2 been added: Contains no ingredients with endocrine-disrupting properties (≥ 0,1%).

SECTION 2 been added: Contains no ingredients with endocrine-disrupting properties (≥ 0,1%).