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

1.1 Product identifier

Polarshine Marine Shield
UFI: D5QE-U82Q-E00V-TAQG

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

1.2.1 Relevant uses

Corrosion protection

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

Mirka (UK) Ltd
Saxon House, Shirwell Crescent, Furzton Lake
MK4 1GA Milton Keynes / GREAT BRITAIN
Phone +44 (0)1908 866100
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)
CHEMTREC UK: +(44)-870-8200418 (English)
CHEMTREC Ireland (Dublin): +(353)-19014670 (English, Irish Gaelic)
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 [REGULATION (GB) CLP]

Asp. Tox. 1: H304 May be fatal if swallowed and enters airways.

2.2 Label elements

The product is required to be labelled in accordance with regulation CLP.

Hazard pictograms

Signal word DANGER

Contains: Hydrocarbons, C10-C13, n-alkanes, <2 % aromatics

Hazard statements H304 May be fatal if swallowed and enters airways.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER / doctor.
P331 Do NOT induce vomiting.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/national regulation.

Special labelling EUH066 Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards

Human health dangers Has a degreasing effect on the skin.

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.

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
80 - < 90	Hydrocarbons, C10-C13, n-alkanes, <2 % aromatics
	CAS: 129813-66-7, EINECS/ELINCS: 929-018-5, Reg-No.: 01-2119475608-26-XXXX
	GHS/CLP: Asp. Tox. 1: H304 - EUH066
1 - < 5	Silicium dioxide
	CAS: 112926-00-8/7631-86-9, EINECS/ELINCS: 231-545-4
< 0.5	Ammonia solution
	CAS: 1336-21-6, EINECS/ELINCS: 215-647-6, EU-INDEX: 007-001-01-2, Reg-No.: 01-2119982985-14-XXXX
	GHS/CLP: Skin Corr. 1B: H314 - Aquatic Acute 1: H400 - STOT SE 3: H335
< 0.25	Zinc oxide
	CAS: 1314-13-2, EINECS/ELINCS: 215-222-5, EU-INDEX: 030-013-00-7, Reg-No.: 01-2119463881-32-XXXX
	GHS/CLP: Aquatic Acute 1: H400 - Aquatic Chronic 1: H410, M-Factor (acute): 1, M-Factor (chronic): 1

Comment on component parts Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.
For full text of H-statements: see SECTION 16.

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.
In the event of symptoms seek medical treatment.

Skin contact When in contact with the skin, clean with soap and water.
Consult a doctor if skin irritation persists.

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 Consult a doctor immediately.
Do not induce vomiting.
Rinse mouth.
Never give anything by mouth to an unconscious person.

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

If swallowed or in the event of vomiting, risk of product entering the lungs.
Treat symptomatically.
Forward this sheet to your doctor.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

ABC-powder.
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.
Carbon monoxide (CO)
Carbon dioxide (CO2)

5.3 Advice for firefighters

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

Cool containers at risk with water spray jet.
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.
Wear suitable protective equipment. For personal protection see SECTION 8.

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. oil 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.
Provide suitable vacuuming at the processing machines and in the processing area.
Avoid spilling in enclosed areas.
Use solvent-resistant equipment.
Avoid contact with eyes and skin. Use personal protective equipment.

Keep away from all sources of ignition - Refrain from smoking.
Take precautionary measures against static discharges.

Do not eat, drink or smoke when using this product.
Wash hands before breaks and after work.
Use barrier skin cream.
It is recommended to preview eye-wash bottle and showers.

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 in a cool place. Store in a dry place.

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 (GB)

Substance
Hydrocarbons, C10-C13, n-alkanes, <2 % aromatics
CAS: 129813-66-7, EINECS/ELINCS: 929-018-5, Reg-No.: 01-2119475608-26-XXXX
Long-term exposure: 1200 mg/m³
Silicium dioxide
CAS: 112926-00-8/7631-86-9, EINECS/ELINCS: 231-545-4
Long-term exposure: 2.4 mg/m³, respirable dust; inhalable dust - 6 mg/m³
Ammonia solution
CAS: 1336-21-6, EINECS/ELINCS: 215-647-6, EU-INDEX: 007-001-01-2, Reg-No.: 01-2119982985-14-XXXX
Long-term exposure: 25 ppm, 18 mg/m³
Short-term exposure (15-minute): 35 ppm, 25 mg/m³, 15 min

Ingredients with occupational exposure limits to be monitored (EU)

Substance / EC LIMIT VALUES
Ammonia solution
CAS: 1336-21-6, EINECS/ELINCS: 215-647-6, EU-INDEX: 007-001-01-2, Reg-No.: 01-2119982985-14-XXXX
Eight hours: 20 ppm, 14 mg/m³

DNEL

Substance
Zinc oxide, CAS: 1314-13-2
There are no DNEL values established for the substance.

PNEC

Substance
Zinc oxide, CAS: 1314-13-2
soil, 103.4 mg/kg soil dw
sediment (seawater), 201.9 mg/kg sediment dw
sediment (freshwater), 182.8 mg/kg sediment dw
sewage treatment plants (STP), 124.5 µg/L
seawater, 9 µg/L
freshwater, 17.9 µg/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	Face shield. (EN 166) Safety glasses. (EN 166:2001)
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. > 0.4 mm: Nitrile rubber, >480 min (EN 374-1/-2/-3).
Skin protection	Protective clothing (EN 340)
Other	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 vapours. 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	liquid
Color	No information available.
Odor	No information available.
Odour threshold	not applicable
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	189 °C / 372 °F
Flash point [°C]	74 °C / 165 °F
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	847 Pa (20 °C / 68 °F) 4521.98 Pa (50 °C / 122 °F)
Density [g/cm³]	0.7923 (20 °C / 68 °F)
Relative density	0.792 (20 °C / 68 °F)
Bulk density [kg/m³]	not applicable
Solubility in water	insoluble
Solubility other solvents	No information available.
Partition coefficient [n-octanol/water]	not applicable
Kinematic viscosity	1.93 mm²/s (20 °C / 68 °F) < 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

Dynamic viscosity: 1.53 cP (20 °C / 68 °F).

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

No hazardous reactions known.

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

Strong bases.
Strong acids.
Oxidizing agent

10.6 Hazardous decomposition products

No decomposition if used and stored according to specifications.
In the event of fire: See SECTION 5.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity

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

Substance
Silicium dioxide, CAS: 112926-00-8/7631-86-9
LD50, oral, Rat, > 15000 mg/kg (IUCLID)
Hydrocarbons, C10-C13, n-alkanes, <2 % aromatics, CAS: 129813-66-7
LD50, oral, Rat, >5000 mg/kg bw (IUCLID)
Zinc oxide, CAS: 1314-13-2
LD50, oral, Rat, >2000 mg/kg bw
NOAEL, oral, Rat, 31.52 mg/kg bw/day
Ammonia solution, CAS: 1336-21-6
LD50, oral, Rat, 350 mg/kg (25%)

Acute dermal toxicity

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

Substance
Silicium dioxide, CAS: 112926-00-8/7631-86-9
LD50, dermal, Rabbit, > 2000 mg/kg (IUCLID)
Hydrocarbons, C10-C13, n-alkanes, <2 % aromatics, CAS: 129813-66-7
LD50, dermal, Rabbit, >3160 mg/kg bw (IUCLID)
Zinc oxide, CAS: 1314-13-2
LD50, dermal, Rat, >2000 mg/kg bw
LOAEL, dermal, Rat, 75 mg/kg bw/day

Acute inhalational toxicity

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

Substance
Silicium dioxide, CAS: 112926-00-8/7631-86-9
LC0, inhalative, Rat, > 0.139 mg/l 4h (IUCLID)
Zinc oxide, CAS: 1314-13-2
LC50, inhalative, Rat, 1.79 - 5.7 mg/L air
NOAEL, inhalative, Rat, 1.5 mg/m³ air
Ammonia solution, CAS: 1336-21-6
LC50, inhalative, Rat, 1.4 mg/l (4h)(25%)

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

Substance
Zinc oxide, CAS: 1314-13-2
Eye, Rabbit, OECD 405, non-irritating

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

Substance
Zinc oxide, CAS: 1314-13-2
dermal, Rabbit, In vivo study, non-irritating

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

Substance
Zinc oxide, CAS: 1314-13-2
dermal, Guinea pig, OECD 406, non-sensitizing

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

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

Substance
Zinc oxide, CAS: 1314-13-2
NOAEL, inhalative, Rat, 1.5 mg/m³, OECD 413, adverse effect observed
NOAEL, oral, Rat, 13.3 mg/kg bw/day, OECD 408, adverse effect observed
LOAEL, dermal, Rat, 75 mg/kg bw/day, OECD 410, adverse effect observed

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

Substance
Zinc oxide, CAS: 1314-13-2
in vitro, OECD 471, negativ

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

Substance
Zinc oxide, CAS: 1314-13-2
NOAEL, oral, Rat, 20 mg/kg bw/day, In vivo study, no adverse effect observed, Effects on fertility,
NOAEC, inhalativ (mist), Rat, 7.5 mg/m³, OECD 414, no adverse effect observed, Effects on developmental toxicity,

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

Substance
Zinc oxide, CAS: 1314-13-2
oral, mouse, In vivo study, no adverse effect observed

Aspiration hazard May be fatal if swallowed and enters airways.
On basis of test data

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

Toxicological data of complete product are not available.

11.2 Information on other hazards

Endocrine disrupting properties No information available.

Other information none

SECTION 12: Ecological information

12.1 Toxicity

Substance
Silicium dioxide, CAS: 112926-00-8/7631-86-9
EC0, (96h), Brachidanio rerio, > 10000 mg/l (IUCLID)
Hydrocarbons, C10-C13, n-alkanes, <2 % aromatics, CAS: 129813-66-7
LC50, (96h), Pimephales promelas, >5000 mg/L (IUCLID)
Zinc oxide, CAS: 1314-13-2
LC50, (96h), fish, 112 - 8062 µg/L
EC50, (96h), Algae, 300 - 1940 µg/L
EC50, (96h), Invertebrates, 72 - 103 µg/L
Ammonia solution, CAS: 1336-21-6
LC50, (96h), Oncorhynchus mykiss, 0.53 mg/l
EC50, (48h), Daphnia magna, 24 mg/l

12.2 Persistence and degradability

Behaviour in environment compartments	No information available.
Behaviour in sewage plant	No information available.
Biological degradability	EG: 929-018-5: 83%. 28d

12.3 Bioaccumulative potential

CAS 1336-21-6: Log POW=-0.64

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

No information available.

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

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

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

Waste no. (recommended) 160305*
070604*

Contaminated packaging

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

Waste no. (recommended) 150110* packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

14.1 UN number or ID 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

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"

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

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

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

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EEC-REGULATIONS	2008/98/EC 2000/532/EC); 2010/75/EU; 2004/42/EC; (EC) 648/2004; (EC) 1907/2006 (REACH); (EU) 1272/2008; 75/324/EEC ((EC) 2016/2037); (EU) 2020/878; (EU) 2016/131; (EU) 517/2014
TRANSPORT-REGULATIONS	ADR (2021); IMDG-Code (2021, 40. Amdt.); IATA-DGR (2022)
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011); UK REACH; GB CLP.
- Observe employment restrictions for people	Observe employment restrictions for women of child-bearing age. Observe employment restrictions for young people.
- VOC (2010/75/CE)	80 - < 90 %

15.2 Chemical safety assessment

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

SECTION 16: Other information

16.1 Hazard statements (SECTION 3)

H410 Very toxic to aquatic life with long lasting effects.

H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.
H314 Causes severe skin burns and eye damage.
EUH066 Repeated exposure may cause skin dryness or cracking.
H304 May be fatal if swallowed and enters airways.

16.2 Abbreviations and acronyms:

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
ATE = acute toxicity estimate
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
EL50 = Median effective loading
ELINCS = European List of Notified Chemical Substances
EmS = Emergency Schedules
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
IUCLID = International Uniform ChemicaL Information Database
IVIS = In vitro irritation score
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
LC0 = lethal concentration, 0%
LOAEL = lowest-observed-adverse-effect level
LL50 = Median lethal loading
LQ = Limited Quantities
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
STP = Sewage Treatment Plant
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

16.3 Other information

Classification procedure Asp. Tox. 1: H304 May be fatal if swallowed and enters airways. (Calculation method)

Modified position none