PTM-SMK

000000025907

Version 1.3 Revision Date 10.05.2023

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

1.1. Product identifier

Product name	:	PTM-SMK
SDS-number	:	000000025907
Type of product	:	Mixture
Remarks	:	SDS according to Art. 31 of Regulation (EC) 1907/2006.

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

Use of the Substance/Mixture	:	Thermal interface material
Uses advised against	:	none

1.3. Details of the supplier of the safety data sheet

Company	:	Honeywell Specialty Chemicals Seelze GmbH Wunstorfer Straße 40 30926 Seelze Germany	Honeywell International, Inc. 115 Tabor Road Morris Plains, NJ 07950-2546 USA
Telephone	:	(49) 5137-999 0	
For further information, please contact:	:	PMTEU Product Stewardship: SafetyDataSheet@Honeywell.com	

1.4. Emergency telephone number

Emergency telephone number	:	+1-703-527-3887 (ChemTrec-Transport) +1-303-389-1414 (Medical)
Country based Poison Control Center	:	see chapter 15.1

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Aspiration hazard Category 1
H304 May be fatal if swallowed and enters airways.
Short-term (acute) aquatic hazard Category 1
H400 Very toxic to aquatic life.
Long-term (chronic) aquatic hazard Category 1
H410 Very toxic to aquatic life with long lasting effects.

2.2. Label elements

REGULATION (EC) No 1272/2008

Hazard pictograms :

Signal word : Danger

Hazard statements :	H304	May be fatal if swallowed and enters airways.
	H410	Very toxic to aquatic life with long lasting effects.
Precautionary statements :	P273	Avoid release to the environment.
	P280	Wear protective gloves/ eye protection/ face protection.
	P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
	P308 + P313	IF exposed or concerned: Get medical advice/ attention.
	P405	Store locked up.
	P501	Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label : Naphtha (petroleum), hydrotreated heavy; Low boiling point ydrogen treated naphtha [complex combination of hydrocarbons obtained by
zinc oxide
Aluminium, metal

2.3. Other hazards

None known. The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. 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.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
zinc oxide	1314-13-2 030-013-00-7 215-222-5	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 25 % - < 50 %	M(Aquatic Acute) = 1 M(Aquatic Chronic) = 1
Naphtha (petroleum), hydrotreated heavy; Low boiling point ydrogen treated naphtha [complex combination of hydrocarbons obtained by	64742-48-9 649-327-00-6 265-150-3	Flam. Liq. 3; H226 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 10 % - < 20 %	
Aluminium, metal	7429-90-5 231-072-3		>= 50 % - <= 100 %	N.C.*

N.C.* - Non-hazardous substance - for information only

Remaining components of this product are non-hazardous and/or are present at concentrations below reportable limits.

Occupational Exposure Limit(s), if available, are listed in Section 8.
For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:
Immediately take off contaminated clothing and rinse body with plenty of water.

Inhalation:
If inhaled, remove to fresh air. Call a physician if irritation develops or persists.

Skin contact:
Wash off with soap and water. Call a physician if irritation develops or persists.

Eye contact:
Protect unharmed eye. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ingestion:
A person suspected to have swallowed the substance who is conscious should be given water to drink.
Take to a doctor immediately together with this card

4.2. Most important symptoms and effects, both acute and delayed

No data available

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms. :

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Dry chemical
Carbon dioxide (CO2)
Water spray

Extinguishing media which shall not be used for safety reasons:
High volume water jet

5.2. Special hazards arising from the substance or mixture

In case of fire hazardous decomposition products may be produced such as:
Carbon monoxide
Carbon dioxide (CO2)
Aluminum oxides

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation.

6.2. Environmental precautions

Should not be released into the environment. Prevent further leakage or spillage if safe to do so.

6.3. Methods and materials for containment and cleaning up

Ventilate the area.
Avoid dust formation.
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4. Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:
Provide exhaust ventilation if dust is formed. Suitable industrial vacuum cleaners or central exhaust ventilation equipment must be used for taking up dust. Avoid formation of aerosol.

Advice on protection against fire and explosion:
Avoid dust formation. Normal measures for preventive fire protection.

Hygiene measures:
Provide adequate ventilation. Do not inhale aerosol. Keep working clothes separately.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers:
Keep containers tightly closed in a cool, well-ventilated place. Store away from incompatible substances.

Further information on storage conditions:
Store in original container. Avoid product residues in/on containers. Keep away from heat and sources of ignition.

7.3. Specific end use(s)

no additional data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
Aluminium, metal	EH40 WEL TWA	10 mg/m3 Inhalable dust.		
Aluminium, metal	EH40 WEL TWA	4 mg/m3 Respirable dust.		
zinc oxide	EH40 WEL TWA	10 mg/m3 Inhalable dust.		
zinc oxide	EH40 WEL TWA	4 mg/m3 Respirable dust.		
Aluminium, metal	EH40 WEL TWA	10 mg/m3 Inhalable dust.		
Aluminium, metal	EH40 WEL TWA	4 mg/m3 Respirable dust.		

TWA - Time weighted average

DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
zinc oxide	Workers / Long-term systemic effects		5 mg/m3	Inhalation	
zinc oxide	Workers / Long-term local effects		0,5 mg/m3	Inhalation	

zinc oxide	Workers / Long-term systemic effects		83mg/kg bw/d	Skin contact	
zinc oxide	Consumers / Long-term systemic effects		2,5 mg/m3	Inhalation	
zinc oxide	Consumers / Long-term systemic effects		83mg/kg bw/d	Skin contact	
zinc oxide	Consumers / Long-term systemic effects		0,83mg/kg bw/d	Ingestion	
Aluminium, metal					DNEL not applicable

Component	Environmental compartment / Value	Remarks
zinc oxide	Fresh water: 0,0206 mg/l	
zinc oxide	Marine water: 0,0061 mg/l	
zinc oxide	Sewage treatment plant: 0,1 mg/l	
zinc oxide	Fresh water sediment: 117,8 mg/kg dw	
zinc oxide	Marine sediment: 56,5 mg/kg dw	
zinc oxide	Soil: 35,6 mg/kg dw	
Aluminium, metal	:	PNEC not applicable

8.2. Exposure controls

Occupational exposure controls

Ensure that eyewash stations and safety showers are close to the workstation location.
The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

Engineering measures
Ensure adequate ventilation.

Personal protective equipment
Respiratory protection:
No personal respiratory protective equipment normally required.

Hand protection:
Glove material: Natural Latex
Break through time: 480 min
Glove thickness: 0,6 mm
Lapren®706
Gloves must be inspected prior to use.
Replace when worn.
Remarks:Due to varying conditions (e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.
Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer reccomends to use the chemical protective glove in practice not longer than 50% of the recomended permeation time.
Manufacturer´s directions for use should be observed because of great diversity of types .
Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

Eye protection:
Tightly fitting safety goggles

Skin and body protection:
Wear suitable protective equipment.
Lightweight protective clothing
Lab coat

Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	liquid
Colour	:	grey
Odour	:	slight
Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Upper explosion limit	:	Not applicable
Lower explosion limit	:	Not applicable
Flash point	:	> 61 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
pH	:	Not applicable
Viscosity, kinematic	:	No data available
Partition coefficient: n-octanol/water	:	No data available

9.2 Other Information

Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Evaporation rate	:	No data available

Viscosity, dynamic : No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

No data available

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Keep away from heat and sources of ignition.
Keep away from direct sunlight.

10.5. Incompatible materials

Incompatible with strong acids, oxidizers and nitrates.

10.6. Hazardous decomposition products

In case of fire hazardous decomposition products may be produced such as:
Carbon monoxide
Carbon dioxide (CO2)
Aluminum oxides

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:
No data available

Acute dermal toxicity:
No data available

Acute inhalation toxicity:
No data available

Skin irritation:
No data available

Eye irritation:
No data available

Respiratory or skin sensitisation:
Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Repeated dose toxicity:
Note: No data available

Carcinogenicity:
Species: not specified
Note: No data available
Germ cell mutagenicity:
Note: No data available

Note: No data available

Reproductive toxicity:
Species: not specified
Remarks: No data available

Aspiration hazard:
May be fatal if swallowed and enters airways.

11.2. Information on other hazards

Endocrine disrupting properties
No data available

Other information:
The data we have is not sufficient for an toxicological evaluation. Usual hygienic measures must be taken as the case is when dealing with chemicals.

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish:
No data available

Toxicity to aquatic plants:
No data available

Toxicity to aquatic invertebrates:
No data available

12.2. Persistence and degradability

Biodegradability:
No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

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.

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product:
Dispose according to legal requirements.

Packaging:

Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information:
Provisions relating to waste:
EC Directive 2006/12/EC; 2008/98/EEC
Regulation No. 1013/2006

For personal protection see section 8.

SECTION 14: Transport information

14.1 UN number

ADR/RID:3082 IMDG:3082 IATA:3082

14.2 UN proper shipping name

ADR/RID:ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(ZINC OXIDE)
IMDG:ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(ZINC OXIDE)
IATA:Environmentally hazardous substance, liquid, n.o.s.(Zinc oxide)

14.3 Transport hazard class(es)

ADR/RID: 9 IMDG: 9 IATA: 9

14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID: yes Marine pollutant: yes

14.6 Special precautions for user

Not regulated for transport when single and combination packagings are <= 5L for liquids or <= 5kg for solids per ADR SP 375, IMDG 2.10.2.7 and IATA SP A197.

14.7 Maritime transport in bulk according to IMO instruments

No data available

SECTION 15: Regulatory information

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

Basis	Value	Remarks
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of ≥ 0.1 % (w/w).
Directive 2012/18/EC Listed in Regulation : E1: Hazardous to the aquatic environment	**Quantity**: 100 t **Quantity**: 200 t	

Poison Control Center

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+)35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390
Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444
Germany	Berlin : 030/19240
	Bonn : 0228/19240
	Erfurt : 0361/730730

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Giftinformation);+46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111

	Freiburg : 0761/19240
	Göttingen : 0551/19240
	Homburg : 06841/19240
	Mainz : 06131/19240
	Munich : 089/19240
Latvia	+37167042473

Other inventory information

US. Toxic Substances Control Act
On TSCA Inventory

Australia. Inventory of Industrial Chemicals (AIIC), as amended
Not in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)
This product contains one or several components listed in the Canadian NDSL.

Japan. Kashin-Hou Law List
Not in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)
Not in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)
Not in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI)
On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Text of H-statements referred to under heading 3

zinc oxide	:	H400	Very toxic to aquatic life.
		H410	Very toxic to aquatic life with long lasting effects.
Naphtha (petroleum), hydrotreated heavy; Low boiling point ydrogen treated naphtha [complex combination of hydrocarbons obtained by	:	H226	Flammable liquid and vapour.
		H304	May be fatal if swallowed and enters airways.
		H411	Toxic to aquatic life with long lasting effects.

Further information

All directives and regulations refer to amended versions.
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:
EC European Community
CAS Chemical Abstracts Service
DNEL Derived no effect level
PNEC Predicted no effect level
vPvB Very persistent and very biaccumulative substance
PBT Persistent, bioaccmulative und toxic substance

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.
This information should not constitute a guarantee for any specific product properties.