

Stencil Printable PTM6000HV (PTM6000HV Phase Change Interface Material - Stencil Printable Version)**104870**

Version 1.1

Revision Date 08/16/2018

Print Date 02/20/2020

SECTION 1. IDENTIFICATION

Product name : Stencil Printable PTM6000HV (PTM6000HV Phase Change Interface Material - Stencil Printable Version)

Number : 000000022555

Product Use Description : Thermal interface material

Manufacturer or supplier's details : Honeywell International Inc.
115 Tabor Road
Morris Plains, NJ 07950-2546

For more information call : 1-480-293-9800
(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : **Medical: 1-800-498-5701 or +1-303-389-1414**
: **Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887**
:
: (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : paste

Color : grey

Odor : slight

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Classification of the substance or mixture

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

Precautionary statements : **Prevention:**
Use personal protective equipment as required.

Hazards not otherwise classified : Repeated or prolonged exposure may irritate eyes, skin and respiratory system.

Carcinogenicity

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, IARC, or OSHA.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Mixture

Chemical name	CAS-No.	Concentration
Aluminum	7429-90-5	30.00 - 80.00 %
Zinc oxide	1314-13-2	0.00 - 45.00 %
Solvent	-	0.00 - 15.00 %
Polymer	-	1.00 - 10.00 %

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Proprietary ingredient	-	0.10 - 10.00 %
Proprietary ingredient	-	0.30 - 3.00 %
Proprietary ingredient	-	0.10 - 1.50 %
Proprietary ingredient	-	0.10 - 2.00 %
Proprietary ingredient	-	0.30 - 4.50 %

SECTION 4. FIRST AID MEASURES

General advice	:	First aider needs to protect himself. Move out of dangerous area.
Inhalation	:	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician.
Skin contact	:	Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician if irritation develops or persists.
Eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation develops or persists.
Ingestion	:	Do NOT induce vomiting. If a person vomits when lying on his back, place him in the recovery position. Immediate medical attention is required.

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Notes to physician

Indication of immediate medical attention and special treatment needed, if necessary : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

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

Unsuitable extinguishing media : High volume water jet

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

Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Wear personal protective equipment.
Evacuate personnel to safe areas.
Eliminate all ignition sources if safe to do so.
Do not swallow.
Avoid breathing vapours, mist or gas.
Avoid contact with skin, eyes and clothing.

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

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).

SECTION 7. HANDLING AND STORAGE**Handling**

Precautions for safe handling : Handle with care.
Wear personal protective equipment.
Avoid dust formation.
Do not swallow.
Avoid breathing vapours, mist or gas.
Avoid contact with skin, eyes and clothing.

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

Storage

Conditions for safe storage, including any incompatibilities : Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep away from heat and sources of ignition.
Keep away from direct sunlight.
Protect from physical damage.
Store away from incompatible substances.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures : Ensure that eyewash stations and safety showers are close to

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the workstation location.
 Avoid dust formation.
 Do not swallow.
 Avoid breathing dust.
 Avoid contact with skin, eyes and clothing.

- Engineering measures : Ensure adequate ventilation.
- Eye protection : Safety glasses with side-shields
 For leak, spill or other emergency:
 Goggles or face shield, giving complete protection to eyes
- Hand protection : Protective gloves
 Gloves must be inspected prior to use.
 Replace when worn.
- Skin and body protection : Apron
 Protective suit
 If splashes are likely to occur, wear:
 Complete suit protecting against chemicals
- Respiratory protection : No personal respiratory protective equipment normally required.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
 Avoid dust formation.
 When using, do not eat, drink or smoke.
 Wash hands before breaks and immediately after handling the product.
 Remove and wash contaminated clothing before re-use.
 Keep working clothes separately.
 Do not swallow.
 Avoid breathing vapours, mist or gas.
 Avoid contact with skin, eyes and clothing.

Exposure Guidelines

Components	CAS-No.	Value	Control parameters	Update	Basis

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Aluminum	7429-90-5	TWA : Time weighted average	1 mg/m3	2008	ACGIH:US. ACGIH Threshold Limit Values
Further information	:	Form of exposure : Respirable fraction.			

Aluminum	7429-90-5	PEL : Permissi ble exposure limit	15 mg/m3	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Further information	:	Form of exposure : Total dust. Expressed as : as Al			

Aluminum	7429-90-5	PEL : Permissi ble exposure limit	5 mg/m3	03 2016	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Further information	:	Form of exposure : Respirable fraction. Expressed as : as Al			

Aluminum	7429-90-5	TWA : Time weighted average	5 mg/m3	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
Further information	:	Form of exposure : Fume. Expressed as : as Al			

Aluminum	7429-90-5	TWA : Time weighted average	15 mg/m3	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
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Further information	:	Form of exposure : Total dust. Expressed as : as Al
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Aluminum	7429-90-5	TWA : Time weighted average	5 mg/m3	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
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Further information	:	Form of exposure : Respirable dust. Expressed as : as Al
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Aluminum	7429-90-5	TWA : Time weighted average	5 mg/m3	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
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Further information	:	Form of exposure : Pyrophoric powder. Expressed as : as Al
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Aluminum	7429-90-5	REL : Recomm ended exposure limit (REL):	10 mg/m3	2016	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
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Further information	:	Form of exposure : Total
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Aluminum	7429-90-5	REL : Recomm ended exposure limit (REL):	5 mg/m3	2016	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
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Further information	:	Form of exposure : Respirable.
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Aluminum	7429-90-5	REL : Recomm ended exposure limit (REL):	5 mg/m3	2016	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
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Further information	:	Form of exposure : Welding fume or pyrophoric powder. Expressed as : as Al			
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Aluminum	7429-90-5	TWA : Time weighted average	15 mg/m3	03 2016	Z3:US. OSHA Table Z-3 (29 CFR 1910.1000)
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Further information	:	Form of exposure : Total dust.			
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Aluminum	7429-90-5	TWA : Time weighted average	5 mg/m3	03 2016	Z3:US. OSHA Table Z-3 (29 CFR 1910.1000)
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Further information	:	Form of exposure : Respirable fraction.			
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Aluminum	7429-90-5	TWA : Time weighted average	50 millions of particles per cubic foot of air	03 2016	Z3:US. OSHA Table Z-3 (29 CFR 1910.1000)
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Further information	:	Form of exposure : Total dust.			
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Aluminum	7429-90-5	TWA : Time weighted average	15 millions of particles per cubic foot of air	03 2016	Z3:US. OSHA Table Z-3 (29 CFR 1910.1000)
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Further information	:	Form of exposure : Respirable fraction.			
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Zinc oxide	1314-13-2	STEL : Short term exposure limit	10 mg/m3	2008	ACGIH:US. ACGIH Threshold Limit Values
Further information	:	Form of exposure : Respirable fraction.			

Zinc oxide	1314-13-2	TWA : Time weighted average	2 mg/m3	2008	ACGIH:US. ACGIH Threshold Limit Values
Further information	:	Form of exposure : Respirable fraction.			

Zinc oxide	1314-13-2	REL : Recomm ended exposure limit (REL):	5 mg/m3	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Further information	:	Form of exposure : Fume.			

Zinc oxide	1314-13-2	REL : Recomm ended exposure limit (REL):	5 mg/m3	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Further information	:	Form of exposure : Dust.			

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Zinc oxide	1314-13-2	Ceil_Tim e : Ceiling Limit Value and Time Period (if specified) :	15 mg/m3	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Further information	:	Form of exposure : Dust.			
Zinc oxide	1314-13-2	STEL : Short term exposure limit	10 mg/m3	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Further information	:	Form of exposure : Fume.			
Zinc oxide	1314-13-2	PEL : Permissi ble exposure limit	5 mg/m3	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Further information	:	Form of exposure : Fume.			
Zinc oxide	1314-13-2	PEL : Permissi ble exposure limit	5 mg/m3	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Further information	:	Form of exposure : Respirable fraction.			

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Zinc oxide	1314-13-2	PEL : Permissible exposure limit	15 mg/m3	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
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Further information	:	Form of exposure : Total dust.			
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Zinc oxide	1314-13-2	STEL : Short term exposure limit	10 mg/m3	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
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Further information	:	Form of exposure : Fume.			
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Zinc oxide	1314-13-2	TWA : Time weighted average	5 mg/m3	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
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Further information	:	Form of exposure : Fume.			
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Zinc oxide	1314-13-2	TWA : Time weighted average	5 mg/m3	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
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Further information	:	Form of exposure : Respirable fraction.			
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Zinc oxide	1314-13-2	TWA : Time weighted average	10 mg/m3	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
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Further information	:	Form of exposure : Total dust.			
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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: paste
Color	: grey
Odor	: slight
pH	: Note: no data available
Melting point/range	: Note: no data available
Boiling point/boiling range	: Note: no data available
Flash point	: > 302 °F (150 °C) Method: open cup
Lower explosion limit	: Note: no data available
Upper explosion limit	: Note: Not applicable
Vapor pressure	: Note: no data available
Vapor density	: Note: no data available
Density	: Note: no data available
Water solubility	: Note: no data available

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Ignition temperature : Note: no data available

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Bulk density : Note: Not applicable

SECTION 10. STABILITY AND REACTIVITY

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Hazardous polymerisation does not occur.

Conditions to avoid : Keep away from heat and sources of ignition.
Keep away from direct sunlight.

Incompatible materials : Oxidizing agents
Peroxides
Chlorates, inorganic, n.o.s.
Perchlorates
permanganates, e.g. potassium permanganate
Nitrates
Reducing agents
Acids

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

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SECTION 11. TOXICOLOGICAL INFORMATION

- Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method
- Acute inhalation toxicity : Acute toxicity estimate: > 40 mg/l , vapour
Exposure time: 4 h
Method: Calculation method
- Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method
- Skin irritation : Note: no data available
- Eye irritation : Note: no data available
- Sensitisation : Note: no data available
- Further information : Note: No data is available on the product itself.

SECTION 12. ECOLOGICAL INFORMATION**Further information on ecology**

- Additional ecological : We have no quantitative data concerning the ecological

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information

effects of this product.

: We have no quantitative data concerning the ecological effects of this product.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

: Observe all Federal, State, and Local Environmental regulations.

SECTION 14. TRANSPORT INFORMATION**DOT** Not dangerous goods**TDG** Not dangerous goods**IATA** Not dangerous goods**IMDG** Not dangerous goods**SECTION 15. REGULATORY INFORMATION****Inventories**

US. Toxic Substances Control Act : On TSCA Inventory

Australia. Industrial Chemical (Notification and Assessment) Act : 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.

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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. The Toxic Substances and Hazardous and Nuclear Waste Control Act : Not in compliance with the inventory

China. Inventory of Existing Chemical Substances : Not in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand : Not in compliance with the inventory

National regulatory information

SARA 302 Components : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components : The following components are subject to reporting levels established by SARA Title III, Section 313:

: Aluminum 7429-90-5
: Zinc oxide 1314-13-2

SARA 311/312 Hazards : No SARA Hazards

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California Prop. 65

:



WARNING: This product can expose you to chemicals, listed below, known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Formaldehyde	50-00-0
Ethylbenzene	100-41-4

Massachusetts RTK

: Aluminum	7429-90-5
: Zinc oxide	1314-13-2
: Formaldehyde	50-00-0

New Jersey RTK

: Aluminum	7429-90-5
: Zinc oxide	1314-13-2

Pennsylvania RTK

: Aluminum	7429-90-5
: Zinc oxide	1314-13-2

SECTION 16. OTHER INFORMATION

	HMIS III	NFPA
Health hazard	: 1	1
Flammability	: 1	1
Physical Hazard	: 0	
Instability	:	0

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

Further information

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

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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.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Previous Issue Date: 10/24/2017

Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group