

SAFETY DATA SHEET

1. Identification

Important information *** This Safety Data Sheet is only authorised for use by HP for HP Original products. Any

unauthorised use of this Safety Data Sheet is strictly prohibited and may result in legal action

being taken by HP. ***

Product identifier V1R30Series

Other means of identification None.

Recommended useMaterials to be processed in HP 3D MJF equipment only.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

HP Canada Co.

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HP Inc. health effects line

(Toll-free within the US) 1-800-457-4209 (Direct) 1-760-710-0048

HP Inc. Customer Care

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 1-800-474-6836

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 1-208-323-2551

 Email:
 sustainability@hp.com

Emergency Telephone

Number

1-760-710-0048

Supplier Not available.

2. Hazard identification

Physical hazards Not classified.
Health hazards Not classified.
Environmental hazards Not classified.
OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word Warning

Hazard statement May form combustible dust concentrations in air.

Precautionary statement

Prevention Take precautionary measures against static discharge. Use with adequate ventilation. Avoid

generation or accumulation of dust.

Response If inhaled, remove to fresh air. Get medical attention if symptoms persist. IN CASE OF FIRE, use

water spray or fog, foam, dry chemical or CO2. Collect in a chemical waste container. Use only

vacuum cleaners approved for combustible dust collection.

Storage Not available.

Disposal Not available.

Other hazards May form combustible dust concentrations in air.

Risk of skin burns caused by hot melt.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Polyamide		Proprietary	95-100
Titanium dioxide		13463-67-7	1-5
Composition comments	The components of this product have been evaluated in accordance with the hazard criteria of the Canada Hazardous Products Regulations (HPR).		

4. First-aid measures

Inhalation If dust from the material is inhaled, remove the affected person immediately to fresh air.

Move to fresh air in case of accidental inhalation of vapors or decomposition products. If breathing is difficult, give oxygen. Oxygen or artificial respiration if needed. Consult a physician for specific

advice.

Skin contactWash the skin immediately with soap and water. In case of contact with molten product, cool

rapidly with water and seek immediate medical attention. Do not attempt to remove molten product

from skin because skin will tear easily.

Eye contact Dust: Wash well-open eyes immediately, abundantly and thoroughly with water. Remove particle

remaining under the eyelids. If irritation persists, consult a doctor.

On contact with hot product: Cool eyes rapidly with cold water after contact with molten polymer.

Continue to rinse for at least 15 minutes. Get medical attention immediately.

Ingestion If swallowed, do NOT induce vomiting. Get medical attention. Never give anything by mouth to an

unconscious person.

Most important

symptoms/effects, acute and delayed

General information

No experiences of acute or chronic damages in humans have been made yet.

Risk of skin burn caused by hot melt. Do not leave the victim unattended.

Remove victim immediately from source of exposure.

Victim to lie down in the recovery position, cover and keep him warm.

5. Fire-fighting measures

Suitable extinguishing media

Unsuitable extinguishing media

Specific hazards arising from the chemical

Special protective equipment and precautions for firefighters

Fire fighting equipment/instructions

General fire hazards

Water spray, foam, dry powder or carbon dioxide.

Do not use water jet as an extinguisher, as this will spread the fire.

May be released in case of fire: carbon monoxide, carbon dioxide, nitric oxides, organic products of decomposition. Under certain fire conditions, traces of other toxic products may occur.

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Do not use a solid stream of water. A solid stream of water can cause a dust explosion. Fire fighting equipment should be thoroughly decontaminated after use.

Dust clouds generated during handling and/or storage can form explosive mixtures with air. Check that all equipment is properly grounded and installed to satisfy electrical classification requirements. As with any dry material, pouring this material or allowing it to free-fall or to be conveyed through chutes or pipes can accumulate and generate electrostatic sparks, potentially causing ignition of the material itself, or of any flammable materials which may come into contact with the material or its container.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures In case product dust is released: Dust mask

Methods and materials for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal. If a vacuum is used, the motor must be rated as dust explosion-proof. Dispose of in compliance with federal, state, and local regulations.

Environmental precautions

Prevent further leakage or spillage. Do not let product enter drains. Do not flush into surface water or sanitary sewer system.

7. Handling and storage

Precautions for safe handling

Avoid contact with skin and eyes Avoid breathing dust. Prevent dust accumulation to minimize explosion hazard. Inside and outside the equipment should be cleaned regularly with an explosion-protected vacuum cleaner to avoid dust accumulation. Do not sweep the dust or or try to remove it with a compressed-air gun. Remove contaminated clothing and wash the skin thoroughly with soap and water after work.

Conditions for safe storage, including any incompatibilities

Store away from moisture and heat to maintain the technical properties of the product. Eliminate sources of ignition. Do not expose to heat or store above 60C.

8. Exposure controls/personal protection

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HS	ACGIH	Threshold	Limit \	/alues

Components	Туре	Value
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Туре	Value
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Туре	Value	Form
Titanium dioxide (CAS 13463-67-7)	TWA	3 mg/m3	Respirable fraction.
,		10 mg/m3	Total dust.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Туре	Value
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Туре	, Value
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

Components	Туре	 Value	Form	
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	Total dust.	

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

Components	Туре	Value
Titanium dioxide (CAS 13463-67-7)	15 minute	20 mg/m3
	8 hour	10 mg/m3

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines Exposure Limits

Titanium dioxide - US OSHA as amended (03/2016) (TWA:Z-3): 15 mg/m3 (Total dust) Titanium dioxide - US OSHA as amended (03/2016) (TWA:Z-3): 5 mg/m3 (Respirable fraction) Titanium dioxide - US OSHA as amended (03/2016) (TWA:Z-3): 50 millions of particles per cubic foot of air (Total dust)

Titanium dioxide - US OSHA as amended (03/2016) (TWA:Z-3): 15 millions of particles per cubic foot of air (Respirable fraction)

Material name: V1R30Series SDS CANADA

14389 Version #: 08 Revision date: 23-Jun-2022 Issue date: 10-Jul-2018

Appropriate engineering controls

HP recommends the use of HP accessories for unpacking 3D parts and refilling the build chamber. If other methods are used, read the following: Dust clouds generated during handling and/or storage can form explosive mixtures with air. Dust explosion characteristics vary with the particle size, particle shape, moisture content, contaminants, and other variables. Check that all equipment is properly grounded and installed to satisfy electrical classification requirements. As with any dry material, pouring this material or allowing it to fall freely or be conveyed through chutes or pipes can accumulate and generate electrostatic sparks, potentially causing ignition of the material itself, or of any flammable materials which may come into contact with the material or its container.

Investigate engineering techniques to reduce exposures below airborne exposure limits or to otherwise reduce exposures. Provide ventilation if necessary to minimize exposures or to control exposure levels to below airborne exposure limits. If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Consult ACGIH ventilation manual, NFPA Standard 91 and NFPA Standard 654 for design of exhaust system and safe handling.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields.

Skin protection

Hand protection

Recommended gloves: Nitrile 6 mil minimum thickness. Protective heat-insulating gloves are to be used during thermal processing. Any areas of skin covered with dust must be washed immediately with soap and water as the powder draws out natural moisture from the skin. Use barrier cream regularly.

Other

Processing of this product releases vapors or fumes which may cause skin irritation. It is a good

industrial hygiene practice to minimize skin contact. Wash thoroughly after handling.

Respiratory protection

Avoid breathing dust. Avoid breathing processing fumes or vapors. Where airborne exposure is likely or airborne exposure limits are exceeded, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components and substances released during processing.

Thermal hazards

In thermal processing: Risk of skin burns. Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

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.

9. Physical and chemical properties

Powder. **Appearance**

Solid.

Solid. Physical state **Form** Powder. Color White. Odor Odorless Not available. Odor threshold Not available.

Melting point/freezing point 363.2 - 368.6 °F (184 - 187 °C)

Initial boiling point and boiling

range

pН

Not available.

Flash point Not available. Not available. **Evaporation rate** Not available. Flammability (solid, gas) Upper/lower flammability or explosive limits

Flammability limit - lower

Not available.

Flammability limit - upper

Not available.

(%)

Explosive limit - lower (%) Not available. Explosive limit - upper (%) Not available. Not available. Vapor pressure

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Vapor density Not available. 1.00 g/cm3 Density

Solubility(ies)

insoluble Solubility (water) Partition coefficient Not available.

(n-octanol/water)

> 752 °F (> 400 °C) **Auto-ignition temperature Decomposition temperature** > 662 °F (> 350 °C) Not available. **Viscosity**

Other information

Bulk density 450 g/l **Density** 1.00 g/cm³

Explosive properties Dusts might form explosive mixtures with air.

Powder explosivity data:

Minimum Ignition Energy (MIE) "dust cloud" w/ Inductance >10mJ.

Layer Ignition Temperature (LIT) "dust layer" >400degC. Minimum Ignition Temperature (MIT) "dust cloud" >360degC.

Auto Ignition Temperature (AIT) >400degC.

Flammability (flash back) This product is not flammable.

Oxidizing properties Not oxidizing. Particle size < 160 µm

10. Stability and reactivity

Reactivity Under normal conditions: stable.

The product is stable under normal handling and storage conditions. **Chemical stability**

Possibility of hazardous

reactions

Will not occur.

Conditions to avoid Take measures to mitigate material spillage and avoid potential ignition sources such as ESD

(ElectroStatic Discharges), flames, and sparks. Do not smoke nearby. Avoid wet/humid

environment. Recommended working humidity 50-70%. Avoid dust formation.

Incompatible materials Oxidizing materials, acids, strong bases, water and high humidity.

Hazardous decomposition

products

Decomposition products on thermal decomposition, carbon monoxide, carbon dioxide, Nitrogen

oxides (NOx), organic products of decomposition.

11. Toxicological information

Information on likely routes of exposure

Inhalation At high temperature, products of thermal decomposition can be irritating to respiratory system.

Skin contact May be considered as comparable to a similar product for which experimental results are: Non

irritating to skin.

Eye contact May be considered as comparable to a similar product for which experimental results are: Not

irritating to the eyes.

Ingestion May be considered as comparable to a similar product for which experimental results are: Slightly

harmful by ingestion.

Symptoms related to the physical, chemical and toxicological characteristics Not available.

Information on toxicological effects

Based on available data, the classification criteria are not met. **Acute toxicity** Skin corrosion/irritation Based on available data, the classification criteria are not met. Serious eye damage/eye

irritation

Based on available data, the classification criteria are not met.

Respiratory or skin sensitization

Canada - Alberta OELs: Irritant Titanium dioxide (CAS 13463-67-7)

Irritant

Respiratory sensitization Based on available data, the classification criteria are not met. Based on available data, the classification criteria are not met. Skin sensitization Germ cell mutagenicity Based on available data, the classification criteria are not met. Carcinogenicity Based on available data, the classification criteria are not met.

ACGIH Carcinogens

Titanium dioxide (CAS 13463-67-7) A4 Not classifiable as a human carcinogen.

Canada - Manitoba OELs: carcinogenicity

Titanium dioxide (CAS 13463-67-7) Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Titanium dioxide (CAS 13463-67-7) 2B Possibly carcinogenic to humans.

Reproductive toxicity Based on available data, the classification criteria are not met.

Specific target organ toxicity -

single exposure

Based on available data, the classification criteria are not met.

Specific target organ toxicity -

repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met. Complete toxicity data are not available for this specific formulation **Further information**

12. Ecological information

No ecotoxicity data noted for the ingredient(s). **Ecotoxicity**

Persistence and degradability Not available. Bioaccumulative potential Not available. Mobility in soil Not available. Not available. Other adverse effects

13. Disposal considerations

Disposal instructions Do not allow this material to drain into sewers/water supplies.

Dispose of waste material according to Local, State, Federal, and Provincial Environmental

Regulations.

Waste from residues / unused

products

Not available.

Not available. Contaminated packaging

14. Transport information

DOT

UN number Not available. **UN** proper shipping name Not Regulated

Transport hazard class(es)

Not available. Class

Subsidiary risk

Packing group Not available.

Environmental hazards

Marine pollutant No

Special precautions for user Not available.

IATA

Not available. **UN number** Not Regulated **UN proper shipping name**

Transport hazard class(es)

Not available. Class

Subsidiary risk

Not available. Packing group

Environmental hazards

Special precautions for user Not available.

IMDG

UN number Not available. **UN proper shipping name** Not Regulated

Transport hazard class(es)

Class Not available.

Subsidiary risk -

Packing group Not available.

Transport hazard class(es)

Marine pollutant No

EmS Not available.

Special precautions for user Not available.

ADR

UN number Not available.
UN proper shipping name Not Regulated

Transport hazard class(es)

Class Not available.

Subsidiary risk -

Hazard No. (ADR) Not available.

Tunnel restriction code Not available.

Packing group Not available.

Environmental hazards No

Special precautions for user Not available.

Further information Not a dangerous good under DOT, IATA, ADR, IMDG, or RID.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC code: Not applicable.

15. Regulatory information

Canadian regulations

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

International regulations

HP complies with chemical regulatory requirements in chemical substance notification laws, where applicable. All chemical substances are notified or exempt from notification or listed in the inventory as existing substances in the following countries: US (TSCA), Canada (DSL/NDSL), Australia (AICIS), Japan (ISHL, ENCS), Philippines (PICCS), New Zealand (NZIoC), Russia and China (IECSC). For guidance on importation and/or additional requirements for registration schemes such as EAEU, EU, South Korea, Turkey, UK, India and Taiwan, please contact the Sustainability and Compliance Center (sustainability@hp.com).

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

16. Other information

Issue date10-Jul-2018Revision date23-Jun-2022

Version # 08

Other information This SDS was prepared in accordance with Canada Controlled Product Regulations.

Disclaimer

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Revision information

3. Composition / Information on Ingredients: Disclosure Overrides Regulatory information: International regulations

Explanation of abbreviations

ACGIH American Conference of Governmental Industrial Hygienists

CAS Chemical Abstracts Service

CERCLA Comprehensive Environmental Response Compensation and Liability Act

CFR Code of Federal Regulations

COC Cleveland Open Cup

DOT Department of Transportation

EPCRA Emergency Planning and Community Right-to-Know Act (aka SARA)

IARC International Agency for Research on Cancer

NIOSH National Institute for Occupational Safety and Health

NTP National Toxicology Program

OSHA Occupational Safety and Health Administration

PEL Permissible Exposure Limit

RCRA Resource Conservation and Recovery Act

REC Recommended

REL Recommended Exposure Limit

SARA Superfund Amendments and Reauthorization Act of 1986

STEL Short-Term Exposure Limit

TCLP Toxicity Characteristics Leaching Procedure

TLV Threshold Limit Value

TSCA Toxic Substances Control Act
VOC Volatile Organic Compounds