



# SAFETY DATA SHEET

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

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### 1.1. Product identifier

**Trade name or designation of the mixture** V1R20Series  
**Registration number** -  
**Synonyms** HP 3D HR PA12 Powder  
**Issue date** 15-Mar-2018  
**Version number** 09  
**Revision date** 16-Oct-2020  
**Supersedes date** 06-Nov-2019

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

**Identified uses** Materials to be processed in HP 3D MJF equipment only.  
**Uses advised against** None known.

### 1.3. Details of the supplier of the safety data sheet

HP Inc Danmark ApS  
Engholm Parkvej 8  
Allerød, 3450  
Denmark

**Telephone** +45-3515-0600

### HP Inc. health effects line

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

### HP Inc. Customer Care Line

**(Toll-free within the US)** 1-800-474-6836  
**(Direct)** 1-208-323-2551

**Email:** hpcustomer.inquiries@hp.com

**1.4 Emergency telephone number** 35 31 60 60

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 as amended

This mixture does not meet the criteria for classification as hazardous according to Regulation (EC) 1272/2008.

### 2.2. Label elements

#### Label according to Regulation (EC) No. 1272/2008 as amended

**Contains:** Polyamide  
**Hazard pictograms** None.  
**Signal word** None.  
**Hazard statements** The mixture does not meet the criteria for classification.

#### Precautionary statements

**Prevention** Not available.  
**Response** Not available.  
**Storage** Not available.  
**Disposal** Not available.

**Supplemental label information** None.

### 2.3. Other hazards

May form combustible dust concentrations in air.  
Risk of skin burns caused by hot melt.

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## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Polyamide	90-100	Proprietary	-	-	
<b>Classification:</b>	-				

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## SECTION 4: First aid measures

#### General information

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.

#### 4.1. Description of 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 contact

Wash 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.

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

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

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

Not available.

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## SECTION 5: Firefighting measures

#### General fire hazards

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.

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Water spray, foam, dry powder or carbon dioxide.

##### Unsuitable extinguishing media

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

#### 5.2. Special hazards arising from the substance or mixture

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.

#### 5.3. Advice for firefighters

##### Special protective equipment for firefighters

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

##### Special fire fighting procedures

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.

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## SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### For non-emergency personnel

In case product dust is released: Dust mask

##### For emergency responders

Not available.

#### 6.2. Environmental precautions

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

**6.3. Methods and material 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.

**6.4. Reference to other sections** Not available.

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## SECTION 7: Handling and storage

**7.1. 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 try to remove it with a compressed-air gun. Remove contaminated clothing and wash the skin thoroughly with soap and water after work.

**7.2. 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.

**7.3. Specific end use(s)** Not available.

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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Occupational exposure limits** No exposure limits noted for ingredient(s).

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

**Recommended monitoring procedures** Not available.

**Derived no effect levels (DNELs)** Not available.

**Predicted no effect concentrations (PNECs)** Not available.

### 8.2. Exposure controls

#### 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).

#### Individual protection measures, such as personal protective equipment

**General information** Not available.

**Eye/face protection** Wear safety glasses with side shields.

#### Skin protection

**- Hand protection** Wear impermeable gloves. 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.

**Hygiene measures** 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.

**Environmental exposure controls** Not available.

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	Powder. Solid.
<b>Physical state</b>	Not available.
<b>Form</b>	Powder.
<b>Color</b>	White.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	363.2 - 368.6 °F (184 - 187 °C)
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	insoluble
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	> 752 °F (> 400 °C)
<b>Decomposition temperature</b>	> 662 °F (> 350 °C)
<b>Viscosity</b>	Not available.
<b>Explosive properties</b>	Dusts might form explosive mixtures with air.  Powder explosivity data:  Minimum Ignition Energy (MIE) "dust cloud" w/ Inductance >30mJ. Layer Ignition Temperature (LIT) "dust layer" >400degC. Minimum Ignition Temperature (MIT) "dust cloud" >360degC. Auto Ignition Temperature (AIT) >400degC.
<b>Oxidizing properties</b>	Not oxidizing.

### 9.2. Other information

<b>Flammability (flash back)</b>	This product is not flammable.
<b>Specific gravity</b>	0.42 g/cm3

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## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	Not available.
<b>10.2. Chemical stability</b>	The product is stable under normal handling and storage conditions.
<b>10.3. Possibility of hazardous reactions</b>	Will not occur.
<b>10.4. Conditions to avoid</b>	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.
<b>10.5. Incompatible materials</b>	Oxidizing materials, acids, strong bases, water and high humidity.
<b>10.6. Hazardous decomposition products</b>	Decomposition products on thermal decomposition, carbon monoxide, carbon dioxide, Nitrogen oxides (NOx), organic products of decomposition.

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## SECTION 11: Toxicological information

<b>General information</b>	Not available.
<b>Information on likely routes of exposure</b>	
<b>Inhalation</b>	At high temperature, products of thermal decomposition can be irritating to respiratory system.

<b>Skin contact</b>	May be considered as comparable to a similar product for which experimental results are: Non irritating to skin.
<b>Eye contact</b>	May be considered as comparable to a similar product for which experimental results are: Not irritating to the eyes.
<b>Ingestion</b>	May be considered as comparable to a similar product for which experimental results are: Slightly harmful by ingestion.
<b>Symptoms</b>	Not available.
<b>11.1. Information on toxicological effects</b>	
<b>Acute toxicity</b>	Based on available data, the classification criteria are not met.
<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met.
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.
<b>Respiratory sensitization</b>	Based on available data, the classification criteria are not met.
<b>Skin sensitization</b>	Based on available data, the classification criteria are not met.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.
<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
<b>Specific target organ toxicity - single exposure</b>	Based on available data, the classification criteria are not met.
<b>Specific target organ toxicity - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.
<b>Mixture versus substance information</b>	Not available.
<b>Other information</b>	Complete toxicity data are not available for this specific formulation

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## SECTION 12: Ecological information

<b>12.1. Toxicity</b>	No toxicity data noted for the ingredient(s).
<b>12.2. Persistence and degradability</b>	Not available.
<b>12.3. Bioaccumulative potential</b>	Not available.
<b>Partition coefficient n-octanol/water (log Kow)</b>	Not available.
<b>Bioconcentration factor (BCF)</b>	Not available.
<b>12.4. Mobility in soil</b>	Not available.
<b>12.5. Results of PBT and vPvB assessment</b>	Not a PBT or vPvB substance or mixture.
<b>12.6. Other adverse effects</b>	Not available.

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## SECTION 13: Disposal considerations

<b>13.1. Waste treatment methods</b>	
<b>Residual waste</b>	Not available.
<b>Contaminated packaging</b>	Not available.
<b>EU waste code</b>	Not available.
<b>Disposal methods/information</b>	Do not allow this material to drain into sewers/water supplies. Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

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## SECTION 14: Transport information

<b>DOT</b>	
Not regulated as dangerous goods.	
<b>IATA</b>	
Not regulated as dangerous goods.	
<b>IMDG</b>	
Not regulated as dangerous goods.	
<b>ADR</b>	
Not regulated as dangerous goods.	
<b>Further information</b>	Not a dangerous good under DOT, IATA, ADR, IMDG, or RID.

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## SECTION 15: Regulatory information

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

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

#### Authorizations

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

#### Restrictions on use

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended**

Not listed.

#### Other EU regulations

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Not listed.

#### Other regulations

All chemical substances in this HP product have been notified or are exempt from notification under chemical substances notification laws in the following countries: US (TSCA), EU (EINECS/ELINCS), Switzerland, Canada (DSL/NDSL), Australia, Japan, Philippines, South Korea, New Zealand, and China.

#### Other information

This Safety Data Sheet complies with the requirements of Regulation (EU) 2015/830. Classification according to Regulation (EC) No 1272/2008 as amended.

#### National regulations

Not available.

#### 15.2. Chemical safety assessment

See attached SUMI or GEIS document, if applicable.

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## SECTION 16: Other information

#### References

Regulation (EC) No. 1907/2006 of December 18, 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) and establishing a European Chemicals Agency (REACH).

Regulation (EU) 2015/830 of May 28, 2015 amending Regulation (EC) No. 1907/2006.

Regulation (EC) No. 1272/2008 of December 16, 2008 on classification, labeling and packaging of substances and mixtures, and amendments (CLP).

#### Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

#### Full text of any H-statements not written out in full under Sections 2 to 15

None.

#### Revision information

SECTION 2: Hazards identification: Classification according to Regulation (EC) No 1272/2008

#### Training information

Follow training instructions when handling this material.

## Disclaimer

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## Explanation of abbreviations

<b>ACGIH</b>	American Conference of Governmental Industrial Hygienists
<b>CAS</b>	Chemical Abstracts Service
<b>CERCLA</b>	Comprehensive Environmental Response Compensation and Liability Act
<b>CFR</b>	Code of Federal Regulations
<b>COC</b>	Cleveland Open Cup
<b>DOT</b>	Department of Transportation
<b>EPCRA</b>	Emergency Planning and Community Right-to-Know Act (aka SARA)
<b>IARC</b>	International Agency for Research on Cancer
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTP</b>	National Toxicology Program
<b>OSHA</b>	Occupational Safety and Health Administration
<b>PEL</b>	Permissible Exposure Limit
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>REC</b>	Recommended
<b>REL</b>	Recommended Exposure Limit
<b>SARA</b>	Superfund Amendments and Reauthorization Act of 1986
<b>STEL</b>	Short-Term Exposure Limit
<b>TCLP</b>	Toxicity Characteristics Leaching Procedure
<b>TLV</b>	Threshold Limit Value
<b>TSCA</b>	Toxic Substances Control Act
<b>VOC</b>	Volatile Organic Compounds