



BY WOBBLEWORKS

Tuesday, 3rd March 2015

To Whom It May Concern,

The following documents are the safety data sheets for the underlying polymer used in 3Doodler **FLEXY** plastic strands. These polymers are subsequently processed in Spain to create our 3Doodler plastic strands.

The 3Doodler is for adult use only and is not suitable for children. Please refer to the 3Doodler User Guide included with the 3Doodler (or available at [www.the3doodler.com/manuals](http://www.the3doodler.com/manuals)) for instructions relating to use of the 3Doodler, 3Doodler plastic strands, and any related safety warnings.

The 3Doodler should only be used with plastic strands approved by us. Misuse of your 3Doodler, setting your pen to the wrong heating temperature, and/or use of non-approved plastics or other materials may result in damage to your pen or injury to you, and will void your warranty.

Yours sincerely,

WobbleWorks

Safety Data Sheet according to Regulation (EU) No. 1907/2006

**DESMOPAN 3059D 000000**

Version 1.10

Revision Date 28.01.2019

112000011280

Print Date 29.01.2019

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****DESMOPAN 3059D 000000****1.2 Relevant identified uses of the substance or mixture and uses advised against****Use:**

Production of moulded plastic articles

**1.3 Details of the supplier of the safety data sheet**Covestro Deutschland AG  
COV-CTO-HSEQ-PSRA-PSI  
D-51365 LEVERKUSENTel.: +49 214 6009 4068  
e-mail: ProductSafetyEMLA@covestro.com**1.4 Emergency telephone number**In case of emergency: +49 214 30 99300 (Safety Desk)  
National Chemical Emergency Centre - UK  
Tel: +44 1865 407 333**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

No classification in accordance with the Regulation (EC) No. 1272/2008.

**2.2 Label elements**

No labeling necessary according to the Regulation (EC) No. 1272/2008.

**2.3 Other 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.

**SECTION 3: Composition/information on ingredients****Type of product:** Mixture**3.2 Mixtures**

Thermoplastic polyurethane

No dangerous ingredients according to REACH-Regulation (EC) No. 1907/2006.

#### Candidate List of Substances of Very High Concern for Authorisation

This product contains no substances of very high concern in concentrations where an information obligation applies (REACH Regulation (EC) No. 1907/2006, Article 59).

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

**In case of skin contact:** CONTACT WITH THE HOT MELT: Cool immediately with plenty of water. Do not remove product crusts which may have formed neither forcibly nor by applying any solvents to the skin involved. To obtain treatment for possible burns, and appropriate skin care, seek medical advice immediately.

The following information refers to the handling of the product at room temperature. In case of skin contact wash affected areas thoroughly with soap and plenty of water.

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

**Notes to physician:** No information available.

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

**Therapeutic measures:** No information available.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

**Suitable extinguishing media:** Water, Foam, Dry chemical

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

Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes.

#### 5.3 Advice for fire-fighters

Firemen must wear self-contained breathing apparatus.

Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters.

### SECTION 6: Accidental release measures

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

Put on protective equipment (see section 8). Granules - slip hazard! Ensure adequate ventilation/exhaust extraction. Keep unauthorized persons away.

#### 6.2 Environment related measures

Do not flush into surface water or sanitary sewer system.

#### 6.3 Methods and material for containment and cleaning up

Use mechanical handling equipment. Avoid dust formation. Sweep up and shovel into suitable containers for disposal.

#### 6.4 Reference to other sections

For further disposal measures see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Adequate ventilation and if necessary, effective exhaust must be provided at the workplace when opening fresh drums, drying granules and processing the material. Under recommended processing conditions small amounts of emissions may occur.

Provided good ventilation and/or local exhaust systems are used, the Workplace Exposure Limit(s) stated in section 8 should not be exceeded. In case of mechanical processing, dust must be removed by effective exhaust ventilation.

Keep away from foodstuffs, drinks and tobacco. Wash hands and face before breaks and at the end of work. Keep working clothes separately. Change contaminated clothing.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed and dry.

Storage class (TRGS 510) : 11: Combustible Solids  
 Storage temperature: < 40 °C

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

UK Workplace Exposure Limits (WEL), per EH40 document (Health & Safety Executive). If no UK value exists, EU exposure limits given where available.

### 8.1 Control parameters

The regulations for the substances listed below must be observed when processing this product, particularly if processing takes place at elevated temperatures. In our experience the provision of effective fresh-air and exhaust ventilation equipment at the points where vapors may be generated will ensure compliance with the tolerance limits quoted below.

Substance	CAS-No.	Basis	Type	Value	Ceiling Limit Value	Remarks
Isocyanates (all, as -NCO)		EH40 WEL	STEL	0.07 mg/m3		, measured as NCO
Isocyanates (all, as -NCO)		EH40 WEL	TWA	0.02 mg/m3		, measured as NCO
Isocyanates (all, as -NCO)		EH40 WEL				Listed., measured as NCO
General limiting value of dust		EH40 WEL	TWA	10 mg/m3		inhalable fraction
General limiting value of dust		EH40 WEL	TWA	4 mg/m3		alveolar fraction

### 8.2 Exposure controls

#### Respiratory protection

In case of dust formation use respiratory equipment with filter type particle filter P1 according to EN 143.

#### Hand protection

Suitable materials for safety gloves; EN 374:  
Polyvinyl chloride - PVC ( $\geq 0.5$  mm)  
Contaminated and/or damaged gloves must be changed.

#### Eye protection

Wear eye/face protection.

#### Skin and body protection

Wear suitable protective clothing.

#### Further protective measures

Do not breathe dust/vapor. Grease skin.

### SECTION 9: Physical and chemical properties

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

Appearance:	granular
Colour:	different according to colouration
Odour:	almost odourless
pH:	not applicable
Softening point:	$> 120$ °C
Upper/lower flammability or explosive limits:	not applicable
Vapour pressure:	not applicable
Density:	ca. $1.2$ g/cm <sup>3</sup>
Bulk density:	$500 - 700$ kg/m <sup>3</sup>
Water solubility:	practically insoluble
Auto-ignition temperature:	not applicable
Ignition temperature:	$> 210$ °C
Viscosity, dynamic:	not applicable

#### 9.2 Other information

The indicated values do not necessarily correspond to the product specification. Please refer to the product information sheet or the technical information sheet for specification data.

### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

This information is not available.

#### 10.2 Chemical stability

Decomposition begins at  $230$  °C.

#### 10.3 Possibility of hazardous reactions

No hazardous reactions observed.

#### 10.4 Conditions to avoid

This information is not available.

#### 10.5 Incompatible materials

This information is not available.

#### 10.6 Hazardous decomposition products

Smouldering or incomplete combustion leads to the formation of toxic gas mixtures consisting mainly of CO, CO<sub>2</sub> and nitrogen oxides.

Small quantities of isocyanates may be released when drums are opened for the first time and when the product is exposed to elevated temperatures (e.g. during drying or processing).  
It is primarily a matter of diisopropylphenyl isocyanate.

Exceeding the recommended processing temperatures leads to a significant increase in the amount of isocyanate vapor generated.

Over-exposure entails a risk of concentration-dependent inhalatory irritation and/or sensitization by isocyanates (delayed appearance of difficult breathing, coughing, asthma is possible).  
Hypersensitive persons may suffer from these effects even at low isocyanate concentrations.

The regulations for the substances listed below must be observed when processing this product, particularly if processing takes place at elevated temperatures.

Isocyanates (all, as -NCO)

2,6-diisopropyl-phenylisocyanate

EC-No.: 248-885-4

CAS-No.: 28178-42-9

Classification (1272/2008/CE): Acute Tox. 4 Oral H302 Acute Tox. 1 Inhalative H330 Skin Corr. 1B  
H314 Eye Dam. 1 H318 Resp. Sens. 1 H334 STOT SE 3 H335

## SECTION 11: Toxicological information

Toxicological studies on the product are not yet available.

Please find below the data available to us:

### 11.1 Information on toxicological effects

#### Acute toxicity, oral

Thermoplastic polyurethane

LD50 rat: > 5,000 mg/kg

Method: OECD Test Guideline 423

Studies of a comparable product.

#### Acute toxicity, dermal

Thermoplastic polyurethane

LD50 rat: > 2,000 mg/kg

Studies of a comparable product.

#### Acute toxicity, inhalation

Thermoplastic polyurethane

Assessment: The substance or mixture has no acute inhalation toxicity

Studies of a comparable product.

#### Primary skin irritation

Thermoplastic polyurethane

Species: rabbit

Result: non-irritant

Classification: No skin irritation

Method: OECD Test Guideline 404

Studies of a comparable product.

#### Primary mucosae irritation

Thermoplastic polyurethane

Species: rabbit

Result: non-irritant

Classification: No eye irritation

Studies of a comparable product.

#### Sensitisation

Thermoplastic polyurethane  
Skin sensitisation according to Magnusson/Kligmann (maximizing test):  
Species: Guinea pig  
Result: negative  
Classification: Does not cause skin sensitization.  
Method: OECD Test Guideline 406  
Studies of a comparable product.

**Subacute, subchronic and prolonged toxicity**

Thermoplastic polyurethane  
No data available.

**Carcinogenicity**

Thermoplastic polyurethane  
No data available.

**Reproductive toxicity/Fertility**

Thermoplastic polyurethane  
No data available.

**Reproductive toxicity/Teratogenicity**

Thermoplastic polyurethane  
No data available.

**Genotoxicity in vitro**

Thermoplastic polyurethane  
Test type: Salmonella/microsome test (Ames test)  
Result: No indication of mutagenic effects.  
Method: OECD Test Guideline 471  
Studies of a comparable product.

**Genotoxicity in vivo**

Thermoplastic polyurethane  
No data available.

**STOT evaluation – one-time exposure**

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

**STOT evaluation – repeated exposure**

Thermoplastic polyurethane  
no data available

**Aspiration toxicity**

Thermoplastic polyurethane  
No data available.

**CMR Assessment**

Thermoplastic polyurethane  
Carcinogenicity: No data available.  
Mutagenicity: Based on available data, the classification criteria are not met.  
Teratogenicity: No data available.  
Reproductive toxicity/Fertility: No data available.

**SECTION 12: Ecological information**

Ecotoxicological studies of the product are not available.

Do not allow to escape into waterways, wastewater or soil.

Please find below the data available to us:

**12.1 Toxicity**

**Acute Fish toxicity**

Thermoplastic polyurethane  
EC50 > 100 mg/l  
Species: Danio rerio (zebra fish)  
Exposure duration: 96 h  
Method: Tested according to Directive 92/69/EEC.  
Studies of a comparable product.

**Chronic Fish toxicity**

Thermoplastic polyurethane  
No data available.

**Acute toxicity for daphnia**

Thermoplastic polyurethane  
EC50 > 100 mg/l  
Species: Daphnia magna (Water flea)  
Exposure duration: 48 h  
Method: Tested according to Directive 92/69/EEC.  
Studies of a comparable product.

**Chronic toxicity to daphnia**

Thermoplastic polyurethane  
No data available.

**Acute toxicity for algae**

Thermoplastic polyurethane  
endpoint: Growth inhibition  
Species: scenedesmus subspicatus  
Exposure duration: 72 h  
Method: OECD Test Guideline 201  
No toxic effects with saturated solution.  
Studies of a comparable product.

**Acute bacterial toxicity**

Thermoplastic polyurethane  
EC50 > 10,000 mg/l  
Test type: Respiration inhibition  
Species: activated sludge  
Exposure duration: 3 h  
Method: OECD Test Guideline 209  
Studies of a comparable product.

**12.2 Persistence and degradability**

**Biodegradability**

Thermoplastic polyurethane  
Biodegradation: 1 %, 28 d, i.e. not readily degradable  
Method: Tested according to Directive 92/69/EEC.  
Studies of a comparable product.

**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 Other adverse effects**

The product does not add to the AOX-value of effluent water (DIN EN 1485).



**SECTION 13: Disposal considerations**

Dispose in accordance with applicable international, national and local laws, ordinances and statutes. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

**13.1 Waste treatment methods**

After containers have been emptied as thoroughly as possible (e.g. by pouring, scraping or draining until "drip-dry"), they can be sent to an appropriate collection point set up within the framework of the existing take-back scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations.

The product is suitable for mechanical recycling. After appropriate treatment it can be remelted and reprocessed into new moulded articles. Mechanical recycling is only possible if the material has been selectively retrieved and carefully segregated according to type.

None disposal into waste water.

**SECTION 14: Transport information**

**ADR/RID**

- 14.1 UN number : Not dangerous goods
- 14.2 UN proper shipping name : Not dangerous goods
- 14.3 Transport hazard class(es) : Not dangerous goods
- 14.4 Packing group : Not dangerous goods
- 14.5 Environmental hazards : Not dangerous goods

**ADN**

- 14.1 UN number : Not dangerous goods
- 14.2 UN proper shipping name : Not dangerous goods
- 14.3 Transport hazard class(es) : Not dangerous goods
- 14.4 Packing group : Not dangerous goods
- 14.5 Environmental hazards : Not dangerous goods

**IATA**

- 14.1 UN number : Not dangerous goods
- 14.2 UN proper shipping name : Not dangerous goods
- 14.3 Transport hazard class(es) : Not dangerous goods
- 14.4 Packing group : Not dangerous goods
- 14.5 Environmental hazards : Not dangerous goods

**IMDG**

- 14.1 UN number : Not dangerous goods
- 14.2 UN proper shipping name : Not dangerous goods
- 14.3 Transport hazard class(es) : Not dangerous goods
- 14.4 Packing group : Not dangerous goods
- 14.5 Marine pollutant : Not dangerous goods

**14.6 Special precautions for user**

See section 6 - 8.

- Additional information : Not dangerous cargo. Slight smell.  
Keep dry. Keep separated from foodstuffs.

**14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

**SECTION 15: Regulatory information**

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

**Water contaminating class (Germany)**

nw not water endangering  
 Identification number according to AwSV: 766

**15.2 Chemical Safety Assessment**

A Chemical Safety Assessment has not been conducted for this substance / mixture resp. its components.

**SECTION 16: Other information**

**Full text of the hazard statements of the CLP classification (1272/2008/CE) referred to under sections 2, 3 and 10.**

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.

**Abbreviations and acronyms**

ADN	Accord européen relatif au transport international des marchandises Dangereuses par voie de Navigation intérieure
ADR	Accord européen relatif au transport international des marchandises Dangereuses par Route
ANSI	American National Standards Institute
ASTM	American Society of Testing and Materials (US)
ATE	Acute Toxic Estimate
AwSv	Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen
BCF	Bioconcentration Factor
CAS	Chemical Abstract Service
CLP	Regulation on Classification, Labelling and Packaging of Substances and Mixtures
CMR	Cancerogenic Mutagenic Reprotoxic
DIN	Deutsches Institut für Normung
DNEL	Derived No-Effect Level
EC...	Effect Concentration ... %
EWC	European Waste Catalogue
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LOAEL	Lowest Observable Adverse Effect Level
LC...	Lethal Concentration, ...%
LD...	Lethal Dose, ...%
MARPOL	International Convention for the Prevention of Pollution From Ships
NOAEL	No Observed Adverse Effect Level
NOEL/NOEC	No Observed Effect Level/Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	persistent, bioaccumulative, toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire de marchandises Dangereuses
STOT	Specific Target Organ Toxicity
TRGS	Technische Regeln für Gefahrstoffe
vPvB	very Persistent, very Bioaccumulative
WGK	Wassergefährdungsklasse

**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 materials or in any process, unless specified in the text.

