

Safety Data Sheet

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH)

Initial preparation date: 2021.03.25

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

1.1 Product identifier

Product Name: Nylon 11

Product code: FLP11G01

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

Relevant identified uses: For use in Formlabs Fuse Printers

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

1.3 Details of the manufacturer/supplier of the safety data sheet

Manufacturer:

United States

Formlabs, Inc

35 Medford St

Suite 201 Somerville, MA 02143

+1 617 855 0762

sds@formlabs.com

Supplier:

Germany

Formlabs GmbH

Nalepastr. 18

12459 Berlin

+49 30 555 795 880

1.4 Emergency telephone number:

1-800-424-9300 (24/7)

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No. 1272/2008 (CLP):

Combustible dust, category 1

Additional Information: None

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Hazard pictograms: None

Signal word: Warning

Hazard statements:

None

Precautionary statements:

P243 Take action to prevent static discharges

P261 Avoid breathing dust

P284 [In case of inadequate ventilation] wear respiratory protection

P304 IF INHALED: remove to fresh air

P314 Get medical advice/attention if you feel unwell

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P501 Dispose of contents/container in accordance with local/regional/national regulations

2.3 Other hazards: None known

SECTION 3: Composition/information on ingredients

3.1 Substance:

Identification	REACH Registration No.	Name	Classification according to Regulation (EC) No. 1272/2008 (CLP)	Weight %
CAS number: 1333-86-4 EC number: 215-609-9	-	Carbon Black	Carc. 2; H351	<1

3.2 Mixture: Not applicable.

Additional information: None

Full Text of H and EUH statements: See section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes:

Show this Safety Data Sheet to the doctor in attendance.

Following inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If symptoms develop or persist, seek medical advice/attention.

Following skin contact:

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention.

Following eye contact:

Rinse eyes with plenty of water for several minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. If symptoms develop or persist, seek medical advice/attention.

Following ingestion:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention.

Self-Protection of the first aider:

Not determined or not available.

4.2 Most important symptoms and effects, both acute and delayed

Acute symptoms and effects: Not determined or not available.

Delayed symptoms and effects:

Not determined or not available.

4.3 Indication of any immediate medical attention and special treatment needed

Specific treatment:

Not determined or not available.

Notes for the doctor:

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

Unsuitable extinguishing media:

Do not use water jet.

5.2 Special hazards arising from the substance or mixture:

Thermal decomposition may produce irritating/toxic fumes/gases.

5.3 Advice for firefighters

Personal protection equipment:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode.

Special precautions:

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts.

Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers.

Avoid unnecessary run-off of extinguishing media which may cause pollution.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Do not get on skin, eyes or on clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling. Remove contaminated clothing and laundry before reuse.

6.2 Environmental precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up:

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Avoid breathing dust, mist, fumes, vapors or spray. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

6.4 Reference to other sections:

For personal protective equipment see Section 8. For disposal see Section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:

Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

7.2 Conditions for safe storage, including any incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

7.3 Specific end use(s):

Refer to Section 1 (Recommended Use).

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SECTION 8: Exposure controls/personal protection



8.1 Control parameters

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
Croatia	Carbon Black	1333-86-4	8-Hour TWA: 3.5 mg/m ³ (Dangerous Substances Exposure Limit Values in the Workplace)
	Carbon Black	1333-86-4	15-Minute STEL: 7 mg/m ³ (Dangerous Substances Exposure Limit Values in the Workplace)
Cyprus	Carbon Black	1333-86-4	8-Hour TWA: 3.5 mg/m ³ (Control of factory atmosphere and dangerous substances in factories regulation)
Czech Republic	Carbon Black	1333-86-4	8-Hour TWA: 2 mg/m ³ (Government Decree 361/2007 Sb)
Poland	Carbon Black	1333-86-4	8-Hour TWA: 4 mg/m ³ (inhalable fraction)
Slovakia	Carbon Black	1333-86-4	TWA: 2 mg/m ³ ((Regulation No. 355.2006 concerning protection of workers exposed to chemical agents, Annex 1) (NPEL))
Belgium	Carbon Black	1333-86-4	8-Hour TWA: 3 mg/m ³
Denmark	Carbon Black	1333-86-4	8-Hour TWA: 3.5 mg/m ³
	Carbon Black	1333-86-4	STEL: 7 mg/m ³
Finland	Carbon Black	1333-86-4	8-Hour TWA: 3.5 mg/m ³
	Carbon Black	1333-86-4	15-Minute STEL: 7 mg/m ³
France	Carbon Black	1333-86-4	8-Hour TWA: 3.5 mg/m ³
Greece	Carbon Black	1333-86-4	8-Hour TWA: 3.5 mg/m ³
	Carbon Black	1333-86-4	15-Minute STEL: 7 mg/m ³
Ireland	Carbon Black	1333-86-4	8-Hour TWA: 3 mg/m ³ (inhalable fraction)
Italy	Carbon Black	1333-86-4	8-Hour TWA: 3 mg/m ³ (Legislative Decree n.81)
Portugal	Carbon Black	1333-86-4	8-Hour TWA: 3.5 mg/m ³ (VLE)
Spain	Carbon Black	1333-86-4	8-Hour TWA: 3.5 mg/m ³ (VLA: VLA_ED)
United Kingdom	Carbon Black	1333-86-4	8-Hour TWA: 3.5 mg/m ³ (WEL)
	Carbon Black	1333-86-4	STEL: 7 mg/m ³ (WEL)
Sweden	Carbon Black	1333-86-4	8-Hour TWA: 3 mg/m ³

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Biological limit values:

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

Derived No Effect Level (DNEL):

Ingredient Name: Carbon Black **CAS #:**

1333-86-4

Workers - Systemic Effects	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
	Acute - Dermal	No hazard identified
	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	No hazard identified
Workers - Local Effects	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
	Acute - Dermal	No hazard identified
	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	0.5 mg/m ³
	Chronic - Dermal	No hazard identified
General Population - Systemic Effects	Acute - Oral	No hazard identified
	Acute - Inhalation	No hazard identified
	Acute - Dermal	No hazard identified
	Chronic - Oral	No hazard identified
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	No hazard identified
General Population - Local Effect	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
	Acute - Dermal	No hazard identified
	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	No hazard identified

Predicted No Effect Concentration (PNEC):

Ingredient Name: Carbon Black **CAS #:** 1333-

86-4

Environmental Protection Target	PNEC
Fresh water	1 mg/L
Freshwater sediments	No hazard identified
Marine water	0.1 mg/L
Marine sediments	No hazard identified
Food chain	No exposure expected
Microorganisms in sewage treatment	Not determined or not available.
Soil (agricultural)	No hazard identified
Air	No hazard identified

Information on monitoring procedures:

Not determined or not applicable.

8.2 Exposure controls

Appropriate engineering controls:

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Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

Personal protection equipment

Eye and face protection:

Safety glasses or goggles. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

Skin and body protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

Respiratory protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

General hygienic measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

Environmental exposure controls:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Product (substance / mixture) related measures to prevent exposure:	Not determined or not applicable.
Instruction measures to prevent exposure:	Not determined or not applicable.
Organisational measures to prevent exposure:	Not determined or not applicable.
Technical measures to prevent exposure:	Not determined or not applicable.

Risk management measures to control exposure:

Not determined or not applicable.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Black Powder
Odor	Odorless
Odor threshold	Not determined or not available.
pH	Not determined or not available.
Melting point/freezing point	Not determined or not available.
Initial boiling point/range	Not determined or not available.
Flash point (closed cup)	Not determined or not available.
Evaporation rate	Not determined or not available.

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Flammability (solid, gas)	Not determined or not available.
Upper flammability/explosive limit	Not determined or not available.
Lower flammability/explosive limit	Not determined or not available.
Vapor pressure	Not determined or not available.
Vapor density	Not determined or not available.
Density	Not determined or not available.
Relative density	Not determined or not available.
Solubilities	Not determined or not available.
Partition coefficient (n-octanol/water)	Not determined or not available.
Auto/Self-ignition temperature	> 842 °F (> 450 °C)
Decomposition temperature	Not determined or not available.
Dynamic viscosity	Not determined or not available.
Kinematic viscosity	Not determined or not available.
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

9.2 Other information

SECTION 10: Stability and reactivity

10.1 Reactivity:

Not reactive under recommended handling and storage conditions.

10.2 Chemical stability:

Stable under recommended handling and storage conditions.

10.3 Possibility of hazardous reactions:

Hazardous reactions are not anticipated under recommended conditions of handling and storage.

10.4 Conditions to avoid:

Extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

Store protected from moisture and heat

10.5 Incompatible materials:

None known.

10.6 Hazardous decomposition products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

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

Product data: No data available.

Substance data:

Name	Route	Result
Carbon Black	oral	LD50 Rat: >15400 mg/kg
	dermal	LD50 Rabbit: >3000 mg/kg

Skin corrosion/irritation

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

Product data:

No data available.

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Substance data: No data available.

Serious eye damage/irritation

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

Product data:

No data available.

Substance data: No data available.

Respiratory or skin sensitization

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

Product data:

No data available.

Substance data: No data available.

Carcinogenicity

Assessment:

Suspected of causing cancer.

Product data: No data available.

Substance data:

Name	Species	Result
Carbon Black	Not applicable	Suspected of causing cancer by inhalation exposure route.

International Agency for Research on Cancer (IARC):

Name	Classification
Carbon Black	Group 2B

National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity

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

Product data: No data available.

Substance data: No data available.

Reproductive Toxicity

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

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

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

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (repeated exposure)

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

Product data:

No data available.

Substance data: No data available.

Aspiration toxicity

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

Product data:

No data available.

Substance data: No data available.

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Information on likely routes of exposure:

No data available.

Symptoms related to the physical, chemical and toxicological characteristics:

No data available.

Other information:

No data available.

SECTION 12: Ecological information

12.1 Toxicity

Acute (short-term) toxicity

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

Product data: No data available.

Substance data: No data available.

Chronic (long-term) toxicity

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

Product data: No data available.

Substance data: No data available.

12.2 Persistence and degradability

Product data: No data available.

Substance data:

Name	Result
Carbon Black	Carbon black is an inorganic substance and will not be biodegraded by microorganisms.

12.3 Bioaccumulative potential

Product data: No data available.

Substance data:

Name	Result
Carbon Black	Bioaccumulation is not expected to occur.

12.4 Mobility in soil

Product data: No data available.

Substance data: No data available.

12.5 Results of PBT and vPvB assessment

Product data:

PBT assessment: This product does not contain any substances that are assessed to be a PBT.

vPvB assessment: This product does not contain any substances that are assessed to be a vPvB.

Substance data:

PBT assessment:

Carbon Black	This substance is not PBT.
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vPvB assessment:

Carbon Black	This substance is not vPvB.
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12.6 Other adverse effects: No data available.

12.7 Hazard to the ozone layer

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

Product data: No data available.

Substance data: No data available.

SECTION 13: Disposal considerations

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13.1 Waste treatment methods

13.1.1 Product / Packaging disposal:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities.

Waste codes / waste designations according to LoW: Not determined or not available.

13.1.2 Waste treatment-relevant information:

Not determined or not available.

13.1.3 Sewage disposal-relevant information:

Not determined or not available.

13.1.4 Other disposal recommendations:

Packaging material should be recycled or disposed of in accordance with federal, state, and local regulations.

SECTION 14: Transport information

International Carriage of Dangerous Goods by Road/Rail (ADR/RID)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Carriage of Dangerous Goods by Inland Waterways (ADN)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Maritime Dangerous Goods (IMDG)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

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Transport in bulk according to Annex II of MARPOL and the IBC Code	
Bulk Name	None
Ship type	None
Pollution category	None

SECTION 15: Regulatory information

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

European regulations

Inventory listing (EINECS): All ingredients are listed or exempt.

REACH SVHC candidate list: None of the ingredients are listed.

REACH SVHC Authorizations: None of the ingredients are listed.

REACH Restriction: None of the ingredients are listed.

Water hazard class (WGK) (Product): Not determined.

Water hazard class (WGK) (Substance): None of the ingredients are listed.

Other regulations

Germany TA Luft:

Ingredient Name	CAS	Class	Base Emission Rate	Max Concentration
Carbon Black	1333-86-4			

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: Other information

Abbreviations and Acronyms: None

Summary of classification(s) in section 3:

Carc. 2	Carcinogenicity, category 2
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Disclaimer:

This product has been classified in accordance with EC No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and EC No. 1907/2006 (REACH). The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation, and disposal 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, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

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End of Safety Data Sheet