



## Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

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**Nylon 12**

### SECTION 1: Identification

#### Product identifier

**Product name:** Nylon 12

**Product code:** FLP12G01

#### Recommended use of the product and restriction on use

**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.

#### Manufacturer or supplier details

##### Manufacturer:

##### United States

Formlabs, Inc

35 Medford St

Suite 201 Somerville, MA 02143

+1 617 855 0762

sds@formlabs.com

#### Emergency telephone number:

##### United States/Canada

CHEMTREC

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

### SECTION 2: Hazard identification

#### GHS classification:

Combustible Dusts, category 1

#### Label elements

**Hazard pictograms:** None

**Signal Word:** Warning

#### Hazard statements:

Combustible Dust May form combustible dust concentrations in air.

**Precautionary statements:** None

#### Hazards not otherwise classified:

None

### SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
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CAS number: 1333-86-4	Respirable Carbon Black	<1
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**Additional Information:** None

## SECTION 4: First-aid measures

### Description of first-aid measures

#### General notes:

Show this Safety Data Sheet to the doctor in attendance.

#### After 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.

#### After 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.

#### After 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.

#### After 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.

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

#### Acute symptoms and effects:

Product presents an explosion hazard when suspended in air under certain conditions. Inhalation of large amounts of dust may cause inflammation and irritation of the nose and throat. Symptoms may include cough, sore throat, tightness of the chest, chest pain and lightheadedness.

#### Delayed symptoms and effects:

Not determined or not available.

### Immediate medical attention and special treatment

#### Specific treatment:

Not determined or not available.

#### Notes for the doctor:

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### Extinguishing media

#### Suitable extinguishing media:

Dry chemical, sand and carbon dioxide.

#### Unsuitable extinguishing media:

High volume water jet

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### Specific hazards during fire-fighting:

May form combustible dust concentrations in air. Reacts with water and alcohols. Reacts violently with oxidants, strong acids and bases and chlorinated hydrocarbons. This generates a fire and explosion hazard. Thermal decomposition may produce irritating/toxic fumes/gases.

### Special protective equipment for firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode. Use shielding to protect against bursting containers.

### Special precautions:

Violent reactions may result from the use of a water jet or halogenated extinguishing agents. When using extinguishers, avoid dispersing combustible dust into the air. Aim extinguishers directly at the base of the flames and apply the agent as gently as possible. Overall, give preference to using medium to wide spray patterns rather than solid streams. Use only non-sparking tools. Fire fight from a protected location or maximum possible distance. 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

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

Evacuate unnecessary personnel. Extinguish any sources of ignition. Do not ventilate area as this may spread dust. Wear recommended personal protective equipment including suitable respiratory protection (see Section 8). Ensure no sources of electric discharge or ignition are on your person before entering area. Do not get on skin, eyes or on clothing. Avoid breathing dust, fumes. Wash thoroughly after handling. Remove contaminated clothing and launder before reuse.

### 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.

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

Avoid dust generation or stirring up of dust. Use only non-sparking tools. Ground all equipment used for recovery and clean up. Vacuum up and place in suitable containers for future disposal. Only use vacuum cleaners approved for dust collection. Dispose of in accordance with all applicable regulations (see Section 13).

### Reference to other sections:

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

## SECTION 7: Handling and storage

### 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. Use dust explosion proof electrical equipment and lighting. Avoid dust generation and dispersal of dust in air. Dust deposits should not be allowed to accumulate on surfaces. Clean dust residues at regular intervals. Do not use brooms or compressed air hoses to clean surfaces. Only use vacuums approved for dust collection. Use only non-sparking tools. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions such as electrical grounding and bonding or inner atmospheres. Keep containers tightly closed and grounded when not in use. Workers whose clothing may have been contaminated should change into non-contaminated clothing before leaving the work premises. Contaminated clothing should be segregated in such a manner so that there is no direct personal contact by

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personnel who handle, dispose or clean the clothing. Contaminated clothing should not be allowed out of the workplace. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10).

### 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. Outside or detached storage is preferred. Inside storage should be in a standard flammable storage cabinet. Store away from incompatible materials (See Section 10).

## SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

### Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
Alberta	Respirable Carbon Black	1333-86-4	8-Hour TWA: 3.5 mg/m <sup>3</sup>
Manitoba	Respirable Carbon Black	1333-86-4	8-Hour TWA: 3 mg/m <sup>3</sup> (inhalable fraction)
British Columbia	Respirable Carbon Black	1333-86-4	8-Hour TWA: 3 mg/m <sup>3</sup> (inhalable)
Ontario	Respirable Carbon Black	1333-86-4	8-Hour TWA: 3 mg/m <sup>3</sup> (inhalable fraction)
Quebec	Respirable Carbon Black	1333-86-4	8-Hour TWA: 3 mg/m <sup>3</sup> (inhalable dust)
Saskatchewan	Respirable Carbon Black	1333-86-4	8-Hour Contamination Limit: 3.5 mg/m <sup>3</sup>
	Respirable Carbon Black	1333-86-4	15-Minute Contamination Limit: 7 mg/m <sup>3</sup>
New Brunswick	Respirable Carbon Black	1333-86-4	8-Hour TWA: 3.5 mg/m <sup>3</sup>

### Biological limit values:

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

### Information on monitoring procedures:

Not determined or not applicable.

### Appropriate engineering controls:

This product is a combustible material which may be ignited by friction, heat, sparks or flames. It is recommended that all dust control equipment (such as local exhaust ventilation and material transport systems) involved in handling this product contain explosion relief vents or an explosion suppression system. 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. Keep static electricity under control, which includes the bonding and grounding of equipment. 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:

Use safety glasses with side shields or goggles. Do not wear contact lenses when handling or processing this product. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

#### Skin and body protection:

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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. Contaminated clothing should be removed and separated for decontamination. Do not allow contaminated work clothing out of the workplace. Perform routine housekeeping.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance (physical state, color):</b>	Black Powder
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	Not determined or not available.
<b>pH-value:</b>	Not determined or not available.
<b>Melting/Freezing point:</b>	175-189°C
<b>Boiling point/range:</b>	Not applicable - decomposition
<b>Flash point:</b>	Not determined or not available.
<b>Evaporation rate:</b>	Not determined or not available.
<b>Flammability (solid, gaseous):</b>	Not Flammable. May form combustible dust concentrations in air
<b>Explosion limit upper:</b>	Not determined or not available.
<b>Explosion limit lower:</b>	Dust: < 420 µm
<b>Vapor pressure:</b>	Not determined or not available.
<b>Vapor density:</b>	Not determined or not available.
<b>Density:</b>	Not determined or not available.
<b>Relative density:</b>	1.0 - 1.2 cps @ 20°C
<b>Solubilities:</b>	Not determined or not available.
<b>Partition coefficient (n-octanol/water):</b>	Not determined or not available.
<b>Auto/Self-ignition temperature:</b>	> 350°C
<b>Decomposition temperature:</b>	> 300°C
<b>Dynamic viscosity:</b>	Not determined or not available.
<b>Kinematic viscosity:</b>	Not determined or not available.
<b>Explosive properties</b>	Not determined or not available.
<b>Oxidizing properties</b>	Not determined or not available.

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### SECTION 10: Stability and reactivity

#### Reactivity:

Not reactive under recommended handling and storage conditions.

#### Chemical stability:

Stable under recommended handling and storage conditions.

#### Possibility of hazardous reactions:

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

#### Conditions to avoid:

Extreme heat, open flames, hot surfaces, sparks, static discharge, ignition sources, dust generation and accumulation and incompatible materials.

Do not bring hot smelter into contact with water (steam formation!)

#### Incompatible materials:

Avoid contact with strong oxidizing agents, strong acids, and strong bases.

#### Hazardous decomposition products:

Carbon monoxide, carbon dioxide, nitrogen oxides and organic products of decomposition.

### SECTION 11: Toxicological information

#### Acute toxicity

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

**Product data:** No data available.

#### Substance data:

Name	Route	Result
Respirable Carbon Black	oral	LD50 Rat: >2000 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.

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

**Product data:** No data available.

**Substance data:**

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

### International Agency for Research on Cancer (IARC):

Name	Classification
Respirable Carbon Black	Group 2B

### National Toxicology Program (NTP):

Name	Classification
Respirable Carbon Black	Not Applicable

### 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.

### 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

### Acute (short-term) toxicity

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

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**Product data:** No data available.

**Substance data:**

Name	Result
Respirable Carbon Black	Fish LC50 Danio rerio: >1000 mg/L (96 h)
	Aquatic Plants EC50 Desmodosmus subspicatus: >10000 mg/L (48 h)

### 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.

### Persistence and degradability

**Product data:** No data available.

**Substance data:**

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

### Bioaccumulative potential

**Product data:** No data available.

**Substance data:**

Name	Result
Respirable Carbon Black	Bioaccumulation is not expected to occur.

### Mobility in soil

**Product data:** No data available.

**Substance data:** No data available.

### 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:**

Respirable Carbon Black	This substance is not PBT.
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**vPvB assessment:**

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

## SECTION 13: Disposal considerations

### Disposal methods:

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

### Contaminated packages:

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

## SECTION 14: Transport information



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## Canadian Transportation of Dangerous Goods (TDG)

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

## International Maritime Dangerous Goods (IMDG)

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

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

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

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

<b>Bulk Name</b>	None
<b>Ship type</b>	None
<b>Pollution category</b>	None

## SECTION 15: Regulatory information

### Canada regulations

**Domestic substances list (DSL):** All ingredients are listed or exempt.

**Non-domestic substances list (NDSL):** None of the ingredients are listed.

## SECTION 16: Other information

**Abbreviations and Acronyms:** None

### Disclaimer:

This product has been classified in accordance with the Canadian Hazardous Products Regulations and WHMIS 2015. The information provided in this SDS is correct, to the best of our knowledge, based on

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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**