

MATERIAL SAFETY DATA SHEET

C60



1. Identification of the substance/mixture and of the company/undertaking

1.1. Product Details

Product Code : M117
Name : Fullerene C₆₀
REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration or the annual tonnage does not require a registration.
CAS No. : 99685-96-8

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

Identified uses : Laboratory chemicals

1.3. Supplier details

Supplied by : Ossila Limited
Kroto Innovation Centre
Broad Lane, Sheffield
S3 7HQ, UK
Telephone : 0114 213 2770
Email address : info@ossila.com

2. Hazards identification

2.1. Classification of the substance or mixture

Hazard statements according to Regulation (EC) 1272/2008

Eye irritation (Category 2)

Specific target organ toxicity - single exposure (Category 3)

Hazard statements defined under EU Directive 67/548/EEC or 1999/45/EC:

Symbol	Description	Code
Xi	Irritating to eyes and respiratory system	R36/37

2.2. Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]



Signal word : Warning

Hazard statement(s)

H319 : Causes serious eye irritation.

H335 : May cause respiratory irritation

Precautionary statement(s)

P261 : Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P305 + P351 + P338 : If in eyes: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements None.

2.3. Other hazards

None.

3. Composition/Information on ingredients

3.1. Substances

Synonyms: : Buckminsterfullerene, C60
Formula : C₆₀
Molecular : 720.64 g/mol
weight

Component	CAS #	EC #	Weight %	CLP Classification	DSD Classification
Fullerene-C ₆₀	99685-96-8		100	Eye Irrit. 2 (H319); STOT SE 3 (H335)	Xi, R36/37

4.1. Description of first aid measures

After Inhalation

If inhaled, remove to fresh air. If not breathing give artificial respiration. Call a physician.

After skin contact

In case of skin contact, wash with soap and flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

After eye contact

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

After Ingestion

If swallowed, wash out mouth with water. Call a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

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

No data available.

5. Fire fighting

5.1. Extinguishing media

Use agent most appropriate to extinguish fire. In case of small fire, use "alcohol" foam, dry chemical or carbon dioxide. For large fires apply water from as safe a distance as possible. Use very large quantities or spraying water opposed to a solid stream.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

Carbon oxides

5.3. Advice for firefighters

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases and vapours may be generated by thermal decomposition.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment. Avoid dust formation. Avoid breathing in vapours, mist, gas or dust. Ensure room is well ventilated. Remove all sources of ignition.

6.2. Environmental precautions

Do not let product enter drains.

6.3. Containment and cleaning:

Contain and clean up spill if safe to do so, without raising dust. Dispose of dry waste in closed container for proper disposal according to local regulations.

7. Handling and storage

7.1. Precautions for safe handling

Avoid contact with eyes, skin, and clothing. Avoid formation of dust or vapour. Keep away from sources of ignition and avoid the build of electrostatic charge. Provide exhaust ventilation in places where dust is formed. In case of an accident or if you are feeling unwell, immediately seek medical advice.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry and well-ventilated place inside of a tightly sealed container.

7.3. Specific end uses

Use in laboratories.

8. Exposure controls / Personal protection

8.1. Control parameters

Exposure limit sources

UK – EH40 Workplace Exposure Limits (WEL) for use with the Control of Substances Hazardous to Health (COSHH) Regulations.

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Biological occupational exposure limits

This product does not contain any hazardous materials with biological limits.

8.2. Exposure controls

Engineering measures

Handle in accordance with good industrial practices for hygiene and safety. Ensure eyewash stations and safety showers are close to the laboratory workstation.

Personal protective equipment

Eyes: Wear safety glasses with side-shields conforming to appropriate government standards such as NOISH (US) or EN166 (EU).

Skin: Handle with appropriate gloves and use proper glove removal technique to avoid skin contact. Dispose of gloves in accordance with applicable laws. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Clothing: Wear complete suit protecting against chemicals; the type of equipment should be appropriate for the concentration and amount of dangerous substance used.

Respirators: A respiratory protection program that meets OSHA's 29 CFR §1910.134 and ANSI Z88.2 requirements or European standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

General hygiene measures

Wash thoroughly after handling. Wash contaminated clothing before reuse.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	:	Black powder
Odour	:	No data available
Odour threshold	:	No data available
pH	:	No data available
Melting/freezing point	:	280 °C (lit.)
Flash point	:	> 94 °C (lit.)
Evaporation rate	:	No data available
Flammability	:	No data available
Upper/lower flammability or explosive limits	:	No data available
Vapour pressure	:	No data available
Vapour density	:	No data available
Relative density	:	1.6 g/cm ³ at 20 °C
Water solubility	:	No data available
Partition coefficient <i>n</i> -octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other safety information

No data available.

10. Stability and reactivity

10.1 Reactivity

No data available.

10.2. Chemical stability

Stable under normal temperatures and pressures under recommended storage conditions.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

No data available.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

Carbon oxides.

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity

No data available.

Skin corrosion/irritation

Based on available data the classification criteria are not met

Serious eye damage/eye irritation

May cause eye irritation.

Respiratory or skin sensitization

Based on available data the classification criteria are not met

Germ cell mutagenicity

No data available.

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available.

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available.

Aspiration hazard

No data available.

Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	Causes serious eye irritation.

Signs and Symptoms of Exposure

No data available.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological information

12.1. Toxicity

No data available.

12.2. Persistence and degradability

Readily biodegradable. Persistence is unlikely based on available information.

12.3. Bioaccumulative potential

Bioaccumulation is unlikely.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted, but substance is not considered (very) persistent, (very) bioaccumulative and toxic (PBT/vPvB).

12.6. Other adverse effects

No data available.

13. Disposal

13.1. Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations and in accordance with European Directives on waste and hazardous waste. Offer surplus material to a licensed professional waste disposal professional.

Contaminated packaging

Dispose of as unused product.

14. Transport

IATA:

14.1. UN number

ADR/RID:

IMDG:

IATA:

14.2. UN proper shipping name

ADR/RID:

IMDG:

IATA:

14.3. Transport hazard class

ADR/RID:

IMDG:

IATA:

14.4. Packaging group

ADR/RID:

IMDG:

IATA:

14.5. Environmental hazards

No hazards identified.

14.6. Special precautions for user

No special precautions required.

15. Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

No data available.

15.2 Chemical safety assessment

No chemical safety report/assessment was carried out for this product.

16. Other information

Warranty

This material is for research and development use only. The information provided here is based upon the available information from material suppliers but not warranted as complete and is provided only as a guide. Ossila Limited shall not be held responsible for any damage resulting from use or handling of this product.