SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1  Product identifier
Product Name: Molybdenum disulfide monolayer film on SiO2/Si substrate
Synonyms: Molybdenum sulfide, Molybdenum disulphide, Molybdenum (IV) sulfide
Chemical Name: Molybdenum disulfide
Chemical Formula: MoS2
Product code: M2165
CAS No.: 1317-33-5
EC No.: Not applicable.
REACH Registration No.: Not applicable.

1.2  Relevant identified uses of the substance or mixture and uses advised against
Identified Use(s): PC21 Laboratory chemicals

1.3  Details of the supplier of the safety data sheet
Company Identification: Ossila Limited
Address of Supplier: Solpro Business Park
Windsor Street
Sheffield
Postal code: S4 7WB, UK
Telephone: +441142999180
E-mail: info@ossila.com
Office hours: 08:00 - 17:00

SECTION 2: HAZARDS IDENTIFICATION

2.1  Classification of the substance or mixture
Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2  Label elements
The product does not need to be labelled in accordance with EC directives or respective national laws.

2.3  Other hazards
None known.

2.4  Additional Information
Not applicable.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1  Substances
No components need to be disclosed according to the applicable regulations.

3.2  Mixtures
Not applicable.

SECTION 4: FIRST AID MEASURES

4.1  Description of first aid measures
Inhalation: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.
Skin Contact: Rinse skin with water. If skin irritation occurs, get medical advice/attention.
Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion: Rinse out mouth with water. Get medical advice/attention if you feel unwell.

4.2  Most important symptoms and effects, both acute and delayed
SECTION 11: Most important symptoms and effects, both acute and delayed

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

SECTION 5: FIREFIGHTING MEASURES

5.1  Extinguishing media
Suitable Extinguishing media: As appropriate for surrounding fire.
 Unsuitable extinguishing media: As appropriate for surrounding fire.

5.2  Special hazards arising from the substance or mixture
May decompose in a fire, giving off toxic and irritant vapours.

5.3  Advice for firefighters
Firefighters should wear complete protective clothing including self-contained breathing apparatus.
SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Wear protective clothing as per section 8.

6.2 Environmental precautions

Avoid release to the environment.

6.3 Methods and material for containment and cleaning up

Sweep up spilled substance but avoid making dust. Use vacuum equipment for collecting spilt materials, where practicable. Dispose of contents in accordance with local, state or national legislation.

6.4 Reference to other sections

See Also Section 8, 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid breathing dust/aerosols. Use only in a well-ventilated area. Wear protective clothing as per section 8.

7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed.

Storage temperature
Ambient.

Storage life
Stable under normal conditions.

Incompatible materials
None known.

7.3 Specific end use(s)

Not known. See Section: 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

No Occupational Exposure Limit assigned.

8.2 Exposure controls

8.2.1. Appropriate engineering controls

Ensure adequate ventilation. A washing facility/water for eye and skin cleaning purposes should be present.

8.2.2. Personal protection equipment

Eye Protection
Wear eye protection with side protection (EN166).

Skin protection
Wear protective clothing and gloves: Impervious gloves (EN 374).

Respiratory protection
Normally no personal respiratory protection is necessary.

Thermal hazards
None known.

8.2.3. Environmental Exposure Controls

Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance
Solid transparent film on rigid blue/purple substrate

Colour:
Not known.

Odour
Not known.

Odour threshold
Not known.

pH
Not known.

Melting point/freezing point
Not known.

Initial boiling point and boiling range
Not known.

Flash Point
Not known.

Evaporation rate
Not known.
Flammability (solid, gas) Not known.
Upper/lower flammability or explosive limits Not known.
Vapour pressure Not known.
Vapour density Not known.
Density (g/ml) Not known.
Relative density Not known.
Solubility(ies) Solubility (Water): Not known.
Solubility (Other): Not known.
Partition coefficient: n-octanol/water Not known.
Auto-ignition temperature Not known.
Decomposition Temperature (°C) Not known.
Viscosity Not known.
Explosive properties Not known.
Oxidising properties Not known.
9.2 Other information None.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity None anticipated.
10.2 Chemical Stability Stable under normal conditions.
10.3 Possibility of hazardous reactions Not known.
10.4 Conditions to avoid Not known.
10.5 Incompatible materials Not known.
10.6 Hazardous decomposition products No hazardous decomposition products known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity - Ingestion Not classified.
Acute toxicity - Skin Contact Not classified.
Acute toxicity - Inhalation Not classified.
Skin corrosion/irritation Not classified.
Serious eye damage/irritation Not classified.
Skin sensitization data Not classified.
Respiratory sensitization data Not classified.
Germ cell mutagenicity Not classified.
Carcinogenicity Not classified.
Reproductive toxicity Not classified.
Lactation Not classified.
STOT - single exposure Not classified.
STOT - repeated exposure Not classified.
Aspiration hazard Not classified.
11.2 Other information Not known.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity
Toxicity - Aquatic invertebrates Not known.
Toxicity - Fish Not known.
Toxicity - Algae Not known.
Toxicity - Sediment Compartment Not classified.
Toxicity - Terrestrial Compartment Not classified.
12.2 Persistence and Degradation Not known.
12.3 Bioaccumulative potential Not known.
12.4 Mobility in soil Not known.
12.5 Results of PBT and vPvB assessment Not known.
12.6 Other adverse effects
Not known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Dispose of contents in accordance with local, state or national legislation. Recycle only completely emptied packaging. Normal disposal is via incineration operated by an accredited disposal contractor. Send to a licensed recycler, reclaimer or incinerator.

13.2 Additional Information
Disposal should be in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

IATA/IMO/RID/ADR
Not classified as hazardous for transport.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
European Regulations - Authorisations and/or Restrictions On Use
Candidate List of Substances of Very High Concern for Authorisation
REACH: ANNEX XIV list of substances subject to authorisation
Not listed
REACH: Annex XVII Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
National regulations
Other
Not known.

15.2 Chemical Safety Assessment
A REACH chemical safety assessment has not been carried out.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements:

LEGEND

Acronyms
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS: Chemical Abstracts Service
CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DNEL: Derived No Effect Level
EC: European Community
EINECS: European Inventory of Existing Commercial Chemical Substances
IATA: International Air Transport Association
IBC: Intermediate Bulk Container
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
LTWL: Long term exposure limit
PBT: Persistent, Bioaccumulative and Toxic
PNEC: Predicted No Effect Concentration
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
STEL: Short term exposure limit
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