

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

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| Identification of the substance/preparation | Couplant D |
| Use of the substance/preparation | Couplant. |
| Version No. | 01 |
| CAS No. | Mixture |
| Product code | D-12 u8770026 |
| Manufacturer | |
| Supplier | Olympus |
| Address | 48 Woerd Ave. Waltham, MA 02453, USA |
| Telephone | +1 781-419-3900 |
| Emergency telephone number | CHEMTREC US: 1-800-424-9300, International: +1 703-527-3887 |

2. HAZARDS IDENTIFICATION

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|------------------------------|--|
| Physical hazards | Not classified as a physical hazard. |
| Health hazards | Not classified as a health hazard. |
| Environmental hazards | Not classified as an environmental hazard. |
| Specific hazards | Direct contact with eyes may cause temporary irritation. |

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Components | CAS No. | Percent | EC-No. | Classification |
|------------------|-----------|---------|-----------|----------------|
| Propylene glycol | 57-55-6 | <35 | 200-338-0 | |
| Sodium molybdate | 7631-95-0 | <2 | 231-551-7 | |

4. FIRST-AID MEASURES

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| Inhalation | If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist. |
| Skin contact | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Flush eyes with water as a precaution. Get medical attention if irritation develops and persists. |
| Ingestion | Rinse mouth. If ingestion of a large amount does occur, call a poison control centre immediately. |
| General advice | If you feel unwell, seek medical advice (show the label where possible). |

5. FIRE-FIGHTING MEASURES

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| Suitable extinguishing media | Use fire-extinguishing media appropriate for surrounding materials. |
| Extinguishing media which must not be used for safety reasons | None known. |
| Specific hazards | During fire, gases hazardous to health may be formed. |
| Special protective equipment for fire-fighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire fighting equipment/instructions | Move containers from fire area if you can do so without risk. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |

6. ACCIDENTAL RELEASE MEASURES

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| Containment procedures | Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. |
| Personal precautions | Avoid prolonged exposure. Keep unnecessary personnel away. In case of spills, beware of slippery floors and surfaces. For personal protection, see section 8. |
| Environmental precautions | Prevent further leakage or spillage if safe to do so. |
| Methods for cleaning up | Sweep or scoop up and remove. Wipe up with absorbent material (e.g. cloth, fleece). After cleaning, flush away traces with water. For waste disposal, see section 13 of the SDS. |

7. HANDLING AND STORAGE

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| Handling | Avoid prolonged exposure. Observe good industrial hygiene practices. It is a good industrial hygiene practice to minimise skin contact. |
| Storage | Store in original tightly closed container. Store away from incompatible materials (see section 10 of the SDS). |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

US. ACGIH Threshold Limit Values

| Components | Type | Value | Form |
|----------------------------------|------|-----------------------|----------------------|
| Sodium molybdate (CAS 7631-95-0) | TWA | 0.5 mg/m ³ | Respirable fraction. |

Kenya. OEL-RL. Recommended Limit for Hazardous Chemical Substances (The Factories and Other Places of Work Rules in 2007 of the Factories and Other Places of Work Act (CAP. 514))

| Components | Type | Value | Form |
|----------------------------------|------|-----------------------|--------------------------------|
| Propylene glycol (CAS 57-55-6) | TWA | 470 mg/m ³ | Total vapour and particulates. |
| | | 10 mg/m ³ | Particulate. |
| | | 150 ppm | Total vapour and particulates. |
| Sodium molybdate (CAS 7631-95-0) | TWA | 5 mg/m ³ | |

South Africa. Recommended Exposure Limits (RELs) Regulations for Hazardous Chemical Substances, Table 2

| Components | Type | Value | Form |
|----------------------------------|------|-----------------------|--------------------------------|
| Propylene glycol (CAS 57-55-6) | TWA | 470 mg/m ³ | Total vapour and particulates. |
| | | 10 mg/m ³ | Particulate. |
| | | 150 ppm | Total vapour and particulates. |
| Sodium molybdate (CAS 7631-95-0) | STEL | 10 mg/m ³ | |
| | TWA | 5 mg/m ³ | |

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

Recommended monitoring procedures

Additional exposure data Not available.

Engineering measures

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. General ventilation normally adequate.

Personal protective equipment

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection For prolonged or repeated skin contact use suitable protective gloves.

Eye protection If contact is likely, safety glasses with side shields are recommended. Eye wash fountain is recommended.

Skin and body protection Wear suitable protective clothing.

Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

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|-----------------------|--------------------|
| Physical state | Liquid. |
| Form | Viscous. |
| Colour | Light. Blue green. |

Odour Mild.

pH 8

Melting point/freezing point -15 °C (5 °F)

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|--|----------------------------|
| Boiling point, initial boiling point, and boiling range | > 104.44 °C (> 220 °F) |
| Flash point | Not available. |
| Auto-ignition temperature | Not applicable. |
| Flammability limit - lower (%) | Not applicable. |
| Flammability limit - upper (%) | Not applicable. |
| Vapour pressure | Not applicable. |
| Vapour density | 1 |
| Solubility(ies) | |
| Solubility (water) | 100 % |
| Partition coefficient (n-octanol/water) | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | 60000 cps Brookfield |
| Other data | |
| Relative density | 1.1 - 1.4 g/cc (Water = 1) |
| VOC (Weight %) | < 1.5 % (Calculated) |

10. STABILITY AND REACTIVITY

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| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Conditions to avoid | Contact with incompatible materials. |
| Hazardous decomposition products | No hazardous decomposition products are known. |
| Stability | Material is stable under normal conditions. |
| Materials to avoid | Strong oxidising agents. |
| Hazardous polymerisation | No dangerous reaction known under conditions of normal use. |

11. TOXICOLOGICAL INFORMATION

Toxicological data

| Components | Species | Test results |
|----------------------------------|---------|--------------------------|
| Propylene glycol (CAS 57-55-6) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rabbit | 20800 mg/kg |
| <i>Oral</i> | | |
| LD50 | Rat | 22000 mg/kg |
| Sodium molybdate (CAS 7631-95-0) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rat | > 2000 mg/kg |
| <i>Inhalation</i> | | |
| LC50 | Rat | > 1930 mg/m ³ |
| <i>Oral</i> | | |
| LD50 | Rat | 4233 mg/kg |

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| Routes of exposure | Skin contact. Eye contact. |
| Toxicological information | Occupational exposure to the substance or mixture may cause adverse effects. |
| Sensitisation | Not classified. |
| Carcinogenicity | Not classifiable as to carcinogenicity to humans. |
| Mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| Reproductivity | This product is not expected to cause reproductive or developmental effects. |
| Epidemiology | No epidemiological data is available for this product. |
| Local effects | Prolonged skin contact may cause temporary irritation. Direct contact with eyes may cause temporary irritation. |
| Symptoms and target organs | Direct contact with eyes may cause temporary irritation. |

12. ECOLOGICAL INFORMATION

Ecotoxicological data

| Components | | Species | Test results |
|--|--|---|-----------------------|
| Propylene glycol (CAS 57-55-6) | | | |
| Aquatic | | | |
| <i>Acute</i> | | | |
| Algae | EC50 | Selenastrum capricornutum | 19000 mg/l, 72 hours |
| Crustacea | LC50 | Ceriodaphnia | 18340 mg/l, 48 hours |
| Fish | LC50 | Pimephales promelas | 46500 mg/l, 96 hours |
| Sodium molybdate (CAS 7631-95-0) | | | |
| Aquatic | | | |
| Fish | LC50 | Chinook salmon (Oncorhynchus tshawytscha) | > 1000 mg/l, 96 hours |
| Ecotoxicity | The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. | | |
| Persistence and degradability | No data is available on the degradability of this product. | | |
| Bioaccumulation | | | |
| Bioaccumulative potential | | | |
| Octanol/water partition coefficient log Kow | | | |
| Propylene glycol (CAS 57-55-6) | | -0.92 | |
| Mobility | No data available for this product. | | |
| Other adverse effects | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. | | |

13. DISPOSAL CONSIDERATIONS

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| Disposal instructions | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. |
| Contaminated packaging | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. |

14. TRANSPORT INFORMATION

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| IATA | Not regulated as dangerous goods. |
| IMDG | Not regulated as dangerous goods. |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable. |

15. REGULATORY INFORMATION

| | |
|---------------------|---|
| Labelling | |
| R-phrases(s) | None. |
| S-phrases(s) | S24/25 Avoid contact with skin and eyes. |
| | Follow national regulation for work with chemical agents. |

Safety data sheet available for professional user on request.

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| Regulatory information | The product does not need to be labelled in accordance with EC directives or respective national laws. |
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16. OTHER INFORMATION

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| International Inventories | | |
| Country(s) or region | Inventory name | On inventory (yes/no)* |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Disclaimer

Olympus cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Prepared by

Olympus

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