MATERIAL SAFETY DATA SHEET
Aluminium Coating Ink

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

1.1 Product Identifiers
Product name : Aluminium Coating Ink
Brand : DM-UVR-12001
Product codes : Research Batch _ This MSDS is for product trials only
REACH No. : Not available. Annual tonnage does not require a registration.

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses : Scientific research and development, professional use only. Screen Printing Paste

1.3 Details of the supplier of the safety data sheet
Company : Dycotec Materials Ltd
Unit 12 Star West, Westmead Drive, Westlea, Swindon, Wiltshire SN5 7SW, UK
Telephone : +44 (0) 1788 814025
E-mail address : info@dycotecmaterials.com

1.4 Emergency telephone number
Emergency Phone No. : +44 (0) 7495 248908 Only available during office hours

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture
Physical hazards : H225
Health hazards : H315 H317 H319 H336
Environmental hazards : H412
Physicochemical : Stable under ordinary conditions of storage for flammable liquids

2.2 Label elements
Pictogram

Signal word : Danger
Hazard statements : H225 – Highly flammable liquid and vapour
H315 – Causes skin irritation
H317 – May cause an allergic skin reaction
H319 – Causes serious eye irritation
H336 – May cause drowsiness or dizziness
H412 – Harmful to aquatic life with long lasting effects

Precautionary statements : P210 – Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
No smoking.
P264 – Wash hand thoroughly after handling.
P270 – Do not eat, drink or smoke when using this product.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 – IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 – Rinse mouth
P302 + P352 – IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 – IF SKIN IRRITATION OR RASH OCCURS: Get medical advice/attention.
P362 – Take off contaminated clothing and wash before reuse.
P261 – Avoid breathing dust/fumes/gas/mist/vapours/spray.
P272 – Contaminated work clothing should not be allowed out of the workplace.
P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 – If eye irritation persists: Get medical advice / attention
2.3 Other hazards
No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

<table>
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<tr>
<th>Blender Mixture; Synonyms:</th>
<th>&lt; 40%</th>
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<tr>
<td>CAS #:</td>
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<tr>
<td>EC #:</td>
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<tr>
<td>Classification</td>
<td>H315, H317, H319, H412</td>
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</table>

| Aluminium flake            | < 15% |
| CAS #: 7429-90-5           |       |
| EC #: 231-072-3            |       |
| Classification             |       |

| 2-Propanol; Synonyms:      | < 50% |
| CAS #: 67-64-1             |       |
| EC #: 200-662-7            |       |
| Classification             | H225, H319, H336 |

| Acetone; Synonyms:         | Bal. |
| CAS #: 67-63-0             |       |
| EC #: 200-662-2            |       |
| Classification             | H225, H319, H336 |

| Curing promoter; Synonyms: | < 2% |
| CAS #:                    |       |
| EC #:                      |       |
| Classification             | H315 |

The full text for all Hazard Statements are displayed in Section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General information
Remove affected person from source of contamination. Remove contaminated clothing. First aid personnel must be aware of own risk during rescue. Consult a physician. Show this safety data sheet to the doctor in attendance.

Inhalation
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Ingestion
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with plenty of water. Consult a physician.

Skin contact
Flush with copious amounts of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Seek medical attention if irritation develops or persists. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media Carbon dioxide. Sand. Alcohol resistant form. Dry powder.

5.2 Special hazards arising from the substance or mixture
Harmful vapours. Carbon dioxide, Metal oxides

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary

5.4 Further information
The product itself does not burn under normal storage condition.

SECTION 6: ACCIDENTAL RELEASE MEASURES
6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Wipe up with inert absorbent material and disposal of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from source of ignition – No smoking. Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities
Kept upright to prevent leakage. Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Storage class: Flammable liquids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters – Components with workplace control parameters
No occupational exposure limits known.

8.2 Exposure Controls

Protective equipment

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Eye/face protection
Use approved safety glasses with side shields. Eyewear complying with an approved standard should be worn if a risk assessment indicate eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.

Hand protection
Handle with gloves. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Wear protective gloves made of the following material: Nitrile rubber. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Other skin and body protection
Impervious clothing, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Do not smoke in work area. Wash hands thoroughly after handling. Promptly remove any clothing that becomes contaminated. When using do not eat, drink orsmoke. Contaminated clothing should be placed in a closed container for disposal of decontamination. Warn cleaning personnel of any hazardous properties of the product.

Respiratory protection
If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Combination filter, type A2/P3. In confined or poorly ventilated spaces, a supplied air respiratator must be worn.

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance liquid slurry
Colour gray
Odour      No data available
Odour Threshold No data available
pH          No data available
Melting / freezing point No data available
Initial boiling point and boiling range No data available
Flash point No data available
Evaporation rate No data available
Flammability (solid, gas) No data available
Upper/lower flammability or explosive limits No data available
Vapour pressure No data available
Vapour density No data available
Relative density No data available
Water solubility No data available
Partition coefficient 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

9.1 Other information

Surface tension 22.30 mN/m

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions. Stable at normal ambient temperatures.

10.3 Possibility of hazardous reactions
The product can polymerize if the shelf life or storage temperature are greatly exceeded. Heat develops during polymerization. Reacts with peroxide and other radical components.

10.4 Conditions to avoid
Heat, flames and sparks

10.5 Incompatible materials

10.6 Hazardous decomposition products
Other decomposition products - no data available

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity: Mixture. No known toxicological effects from this product.

Skin corrosion/irritation: Mixture. No data available

Germ cell mutagenicity: Mixture. No data available

Carcinogenicity: Mixture. No data available

Reproductive toxicity: Mixture. No data available

Specific target organ toxicity – single exposure: Mixture. No data available

Specific target organ toxicity – repeated exposure: Mixture. No data available

Aspiration hazard: Mixture. No data available

Signs and Symptoms of Exposure: Mixture. No data available

Additional Information: Mixture. No data available.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity
Do not empty into drains, soil or bodies of water. Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment

12.1 Toxicity
no data available

12.2 Persistence and degradability
no data available
12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available

12.5 Results of PBT and vPvB assessment
no data available

12.6 Other adverse effects
no data available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

General Information
When handling waste, the safety precautions applying to handling of the product should be considered. Do not dump into any sewers, on the ground, or into any body of water. Not to be disposed of together with household waste. Any disposal practice must be in compliance with all local and national laws and regulations. Handle and dispose contaminated packages in the same way as the product itself. Fully cured product residues are generally not regarded as hazardous waste.

Disposal methods
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

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14.2 UN proper shipping name

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14.3 Transport hazard class(es)

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14.4 Packaging group

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14.5 Environmental hazards

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14.6 Special precautions for user

Read safety instructions, SDS and emergency procedures before handling

SECTION 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 data available

SECTION 16: OTHER INFORMATION

General Information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees.
This information is finished without warranty and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

This is an experimental product. This safety data sheet is for product trials only!

Hazard statements in full
H225 – Highly flammable liquid and vapour. Category 2
H315 – Causes skin irritation. Category 2
H317 – May cause an allergic skin reaction. Category 1
H319 – Causes serious eye irritation. Category 2
H336 – May cause drowsiness or dizziness. Category 3
H412 – Harmful to aquatic life with long lasting effects. Category 3