



## Advantage® Graphene for Metal Roofs



Single component solvent free Metal Roof coating system with Graphene using a moisture cured anti-corrosion hybrid coating. The Graphene provides exceptional corrosion resistance and is damp tolerant during application and is easily recoated.

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

#### 1.1 Product Identifier

Product Name:	Advantage® Graphene for Metal Roofs
Product Number:	ATAVGML

#### 1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Identified Users:	Coating for Roof Maintenance & Repair
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#### 1.3 Details of the Supplier of the Safety Data Sheet

Supplier:	Alltimes Coatings Limited, Units C & D, Station Road Industrial Estate, South Woodchester, Stroud, Gloucestershire. GL5 5EQ. UK
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#### 1.4 Emergency Contact Numbers

Telephone:	01455 272 278
Mobile:	07773 329 424

### SECTION 2: Hazards Identification

#### 2.1 Classification of the Substance or Mixture Classification (EC 1272/2008)

Physical Hazards:	Not Classified
Health Hazards:	Skin Sens. 1 - H317
Environmental Hazards:	Aquatic Chronic 3 - H412

#### 2.2 Label Elements

Pictogram:	
Signal Word:	Warning
Hazard Statements:	H317 May cause an allergic skin reaction. H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements:	P261 Avoid breathing vapour/ spray. P272 Contaminated work clothing should not be allowed out of the workplace P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection P302+P352 IF ON SKIN: Wash with plenty of water. P321 Specific treatment (see medical advice on this label). P333+P313 If skin irritation or rash occurs: Get medical advice/ attention P362+P364 Take off contaminated clothing and wash it before reuse. P501 Dispose of contents/ container in accordance with national regulations.
Contains:	Reaction mass of Pentamethyl-Piperidyl Sebacate.

## 2.3 Other Hazards

Other Hazards:	-
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## SECTION 3: Composition/Information on Ingredients

### 3.1 Mixtures

Titanium Dioxide	1 - 5%
CAS Number:	13463-67-7
EC Number:	236-675-5
REACH Registration Number:	012119489379-17-XXXX
Classification:	Not Classified

Pentamethyl-Piperidyl Sebacate	<1%
CAS Number:	-
EC Number:	-
REACH Registration Number:	012119491304-40-XXXX
M Factor (Acute):	1
M Factor (Chronic):	1
Classification:	Skin Sens. 1A - H317 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

## SECTION 4: First Aid Measures

### 4.1 Description of First Aid Measures

General:	If in doubt, get medical attention promptly. Never give anything by mouth to an unconscious person. Place unconscious person on their side in the recovery position and ensure breathing can take place.
Inhalation:	If spray/mist has been inhaled, proceed as follows. Move affected person to fresh air at once. Get medical attention.
Ingestion:	Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention.
Skin Contact:	Wash skin thoroughly with soap and water.
Eye Contact:	Wash affected eyes for at least 15 minutes under running water with eyelids held open.
Protection of First Aiders:	No action shall be taken without appropriate training or involving any personal risk. First aid personnel should wear appropriate protective equipment during any rescue. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves.

## 4.2 Most Important Symptoms and Effects, Both Acute and Delayed

Inhalation:	No significant hazard at normal ambient temperatures.
Ingestion:	No specific symptoms known.
Skin Contact:	Causes skin irritation. May cause an allergic skin reaction.
Eye Contact:	No specific symptoms known.

## 4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes of the Doctor:	Treat symptomatically.
Specific Treatments:	No specific chemical antidote is known to be required after exposure to this product.

## SECTION 5: Firefighting Measures

### 5.1 Extinguishing Media

Suitable Extinguishing Media:	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
Unsuitable Extinguishing Media:	Do not use water jet as an extinguisher, as this will spread the fire.

### 5.2 Special Hazards Arising from the Substance or Mixture

Specific Hazards:	Containers can burst violently or explode when heated, due to excessive pressure build-up. Harmful to aquatic life with long lasting effects.
Hazardous Combustion Products:	Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO <sub>2</sub> ). Carbon monoxide (CO). Acrid smoke or fumes. Oxides of nitrogen. Halogenated hydrocarbons. Metal oxide(s).

### 5.3 Advice for Firefighters

Protective Actions During Firefighting:	In case of fire: Evacuate area. No action shall be taken without appropriate training or involving any personal risk. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Control run-off water by containing and keeping it out of sewers and watercourses.
Special Protective Equipment for Firefighters:	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental Release Measures

### 6.1 Personal Precautions, Protective Equipment and Emergency Procedures

For Non-Emergency Personnel:	No action shall be taken without appropriate training or involving any personal risk. Evacuate area. Keep unnecessary and unprotected personnel away from the spillage. Do not touch or walk into spilled material. Do not breathe gas, fume, vapours or spray. Provide adequate ventilation. If ventilation is inadequate, suitable respiratory protection must be worn. Use protective equipment appropriate for surrounding materials.
For Emergency Personnel:	Wear protective clothing as described in Section 8 of this safety data sheet.

### 6.2 Environmental Precautions

Environmental Precautions:	Avoid the spillage or runoff entering drains, sewers or watercourses. Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air). Contain spillage with sand, earth or other suitable non-combustible material.
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## 6.3 Methods & Material for Containment and Cleaning

Methods for Cleaning Up:	<p><b>Small Spillages:</b> Stop leak if safe to do so. Move containers from spillage area. Absorb spillage with non-combustible, absorbent material. Place waste in labelled, sealed containers. <b>Large Spillages:</b> Stop leak if safe to do so. Move containers from spillage area. Approach the spillage from upwind. No smoking, sparks, flames or other sources of ignition near spillage. Avoid the spillage or runoff entering drains, sewers or watercourses. Dispose of waste via a licensed waste disposal contractor. The contaminated absorbent may pose the same hazard as the spilled material.</p>
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## 6.4 Reference to Other Sections

Reference to Other Sections:	For personal protection, see Section 8. For waste disposal, see Section 13.
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## SECTION 7: Handling and Storage

### 7.1 Precautions for Safe Handling

Usage Precautions:	Contains epoxy constituents. May produce an allergic reaction. Use only in well-ventilated areas. Wear protective clothing as described in Section 8 of this safety data sheet. Inhalation of dust during cutting, grinding or sanding operations involving this product may cause irritation of the respiratory tract. Avoid contact with skin and eyes.
Advice on General Occupational Hygiene	In confined or poorly-ventilated spaces, a supplied-air respirator must be worn. Do not eat, drink or smoke when using this product. Good personal hygiene procedures should be implemented. Wash hands thoroughly after handling. Take off contaminated clothing and wash it before reuse. Remove contaminated clothing and protective equipment before entering eating areas. Change work clothing daily before leaving workplace.

### 7.2 Conditions for Safe Storage, Including Any Incompatibilities

Storage Precautions:	Store in accordance with local regulations. Store in tightly-closed, original container. Avoid contact with oxidising agents. Avoid contact with acids and alkalis. Read label before use. Avoid exposure to high temperatures or direct sunlight. Keep container tightly sealed when not in use.
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### 7.3 Specific End Use(s)

Specific End Use(s):	The identified uses for this product are detailed in Section 1.2.
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## SECTION 8: Exposure Controls/Personal Protection

### 8.1 Control Parameters Occupational Exposure Limits

<b>Titanium Dioxide</b>	
Long-Term Exposure Limit (8 Hour TWA):	WEL 10 mg/m <sup>3</sup> inhalable dust
Long-Term Exposure Limit (8 Hour TWA):	WEL 4 mg/m <sup>3</sup> respirable dust
DNEL:	Workers - Inhalation; Long term local effects: 10 mg/m <sup>3</sup>
PNEC:	<p>Fresh water; 0.127 mg/l            Intermittent release; 0.61 mg/l            Marine water; 1 mg/l            Sediment (Freshwater); 1000 mg/kg            Sediment (Marinewater); 100 mg/kg            STP; 100 mg/l            Soil; 100 mg/kg</p>

<b>Pentamethyl-Piperidyl Sebacate</b>	
<b>DNEL:</b>	Workers - Dermal; Short term systemic effects: 2.5 mg/kg Workers - Inhalation; Short term systemic effects: 2.35 mg/m <sup>3</sup> Workers - Inhalation; Long term systemic effects: 2.35 mg/m <sup>3</sup> Workers - Dermal; Long term systemic effects: 2.5 mg/kg
<b>PNEC:</b>	Fresh water; 0.0022 mg/l Marine water; 0.00022 Intermittent release; 0.009 mg/l Sediment (Marinewater); 0.11 mg/kg Sediment (Freshwater); 1.05 mg/kg Soil; 0.21 mg/kg STP; 1 mg/l

## 8.2 Exposure Controls

<b>Appropriate Engineering Controls:</b>	As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilating equipment.
<b>Eye/Face Protection:</b>	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Chemical splash goggles or face shield.
<b>Hand Protection:</b>	To protect hands from chemicals, gloves should comply with European Standard EN374. 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. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. It is recommended that gloves are made of the following material: Butyl rubber. Nitrile rubber.
<b>Other Skin &amp; Body Protection:</b>	Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact. Wear suitable protective equipment for prolonged exposure and/or high concentrations of vapours, spray or mist. For the greatest protection, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for information on material and design requirements and test methods.
<b>Hygiene Measures:</b>	Good personal hygiene procedures should be implemented. Wash promptly with soap and water if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Care should be taken to avoid contact with contaminants when removing contaminated clothing. Remove contaminated clothing and protective equipment before entering eating areas. When using do not eat, drink or smoke. Eye wash facilities and emergency shower must be available when handling this product.
<b>Respiratory Protection:</b>	If ventilation is inadequate, suitable respiratory protection must be worn. Respirator selection must be based on exposure levels, the hazards of the product and the safe working limits of the selected respirator. When spraying, wear a suitable supplied-air respirator.
<b>Environmental Exposure:</b>	Emissions from ventilation or work process equipment should be checked to ensure they controls comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. Keep container tightly sealed when not in use. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

## SECTION 9: Physical and Chemical Properties

### 9.1 Information on Basic Physical and Chemical Properties

Appearance:	Liquid
Colour:	Off-white
Odour:	Pleasant, agreeable
Flash Point:	Above 60°C
Vapour Density:	Heavier than air
Relative Density:	~ 1.40 @ 20°C
Solubility(ies):	Immiscible with water
Viscosity:	Kinematic viscosity > 20.5 mm <sup>2</sup> /s

### 9.2 Other Information

Volatile Organic Compound:	This product contains a maximum VOC content of 1 g/l.
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## SECTION 10: Stability and Reactivity

### 10.1 Reactivity

Reactivity:	No test data specifically related to reactivity available for this product or its ingredients.
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### 10.2 Chemical Stability

Stability:	Stable at normal ambient temperatures and when used as recommended.
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### 10.3 Possibility of Hazardous Reactions

Possibility of Hazardous Reactions:	Under normal conditions of storage and use, no hazardous reactions will occur.
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### 10.4 Conditions to Avoid

Conditions to Avoid:	Avoid heat, flames and other sources of ignition. Do not pressurise, cut, weld, drill, grind or otherwise expose containers to heat or sources of ignition. Avoid the accumulation of vapours in low or confined areas.
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### 10.5 Incompatible Materials

Materials to Avoid:	Avoid contact with the following materials: Oxidising agents.
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### 10.6 Hazardous Decomposition Products

Hazardous Decomposition Products:	Does not decompose when used and stored as recommended.
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## SECTION 11: Toxicological Information

### 11.1 Information on Toxicological Effects Acute Toxicity

ATE inhalation (vapours mg/l):	883.75
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## SECTION 12: Ecological Information

12.1 Toxicity 12.2 Persistence and Degradability 12.3 Bioaccumulative Potential  
12.4 Mobility in Soil 12.5 Results of PBT and vPvB Assessment 12.6 Other Adverse Effects

Reactivity:	No test data specifically related to reactivity available for this product or its ingredients.
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## SECTION 13: Disposal Considerations

### 13.1 Waste Treatment Methods

General Information:	The generation of waste should be minimised or avoided wherever possible. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.
Disposal Methods:	Do not empty into drains. Waste packaging should be collected for reuse or recycling. Incineration or landfill should only be considered when recycling is not feasible.
Waste Class:	08 01 11 Waste paint and varnish containing organic solvents or other dangerous substances If this product is mixed with other wastes, this code may no longer apply. If mixed with other wastes, the appropriate code should be assigned. For further information, contact your local waste authority.

## SECTION 14: Transport Information

### 14.1 UN Number

UN Number:	No information required.
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### 14.2 UN Proper Shipping Name

UN Shipping Name:	No information required.
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### 14.3 Transport Hazard Class(es)

Transport Hazard Class(es):	No information required.
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### 14.4 Packaging Group

Packaging Group:	No information required.
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### 14.5 Environmental Hazards

Environmental Hazards:	Environmentally hazardous substance/marine pollutant? - No.
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### 14.6 Special Precautions for User

Special Precautions for User:	No information required.
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### 14.7 Transport in Bulk According to Annex II of MARPOL and the IBC Code

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code:	Not applicable.
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## SECTION 15: Regulatory Information

### 15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

EU Legislation:	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Health & Environmental Listings:	None of the ingredients are listed.
Authorisations (Title VII Regulation 1907/2006):	No specific authorisations are known for this product.
Restrictions (Title VIII Regulation 1907/2006):	No specific restrictions are known for this product.

### 15.2 Chemical Safety Assessment

Revision Date:	17/08/18
Revision:	3
Supersedes Date:	22/07/18
SDS Number:	5382
Abbreviations & Acronyms Used in the Safety Data Sheet:	ATE = Acute Toxicity Estimate CLP = Classification, Labelling & Packaging Regulation DNEL = Derived No Effect Level EUH Statement = CLP - Specific Hazard statement PNEC = Predicted No Effect Concentration RRN = REACH Registration Number WEL = Workplace Exposure Limit
Hazard Statements in Full:	H317 May cause an allergic skin reaction. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.
Component:	Base
Shelf Life:	1 Year



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*No responsibility can be taken by the manufacturers where conditions of use are beyond our control. All products should be used in accordance with the manufacturer's instructions. For further information please refer to the application guide and Material Safety Data Sheet. This information and guidance is given in good faith and without prejudice and liability, Technical and Safety Data must be observed. All coverages are given as a guide only, as volumes will vary with profile, porosity and method of application. Loss factors should also be taken into account.*