1- CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Product Name: AKSACA® Carbon Fiber


Company Identification: DowAksa İleri Kompozit Malzemeler Sanayi Ltd Sti
Head: Miralay Şefik Bey Sok. Ak Han No: 15
34437 Gümüşsuyu - İstanbul / TURKEY

Plant: Denizçalı Köyü Yalova - İzmit Yolu Cad. No:34
77600 Yalova / TURKEY

Emergency Telephone: 00 -90 226- 353 25 45

2- HAZARDS IDENTIFICATION

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

: Not classified

Physio-chemical hazards: See chapter 10
In the supplied form the product is not explosive at all; however, the build-up of fine dust can lead to a risk of dust explosions.

Human health dangers: See chapter 11 and below.

Eye: Dust may cause temporary irritation.

Skin: Dust may cause mild irritation. In some cases, the dust may cause allergic skin reactions.

Inhalation: Carbon fibers commonly in use are also greater than six micrometers in diameter, making them unlikely to be respirable. An ongoing survey of workers in a carbon-fiber production plant shows no pulmonary function abnormalities and no evidence of dust-related disease.
(Ref. : OSHA Technical Manual (OTM) Section III: Chapter 1 / VI.HEALTY HAZARDS/ C.Reinforcement Fibers /1. Carbon/graphite fibers)

Permissible Exposure: 15 MCCPF OSHA TWA, 10 mg/m³ ACGIH TWA(Total Dust)

Environmental hazards: See chapter 12
Other hazards: This product and its dusts are electrically conductive.

<table>
<thead>
<tr>
<th>Least: 0; Slight: 1; Moderate: 2; High: 3; Extreme: 4</th>
<th>Health</th>
<th>Fire</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon fiber</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sizing</td>
<td>1</td>
<td>1</td>
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</tbody>
</table>

3- COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Type: Carbon (Carbon Fiber)
CAS No: 7440-44-0

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Composition, % by weight</th>
<th>Chemical Formula</th>
<th>Hazards Identification</th>
<th>CAS No.</th>
<th>TSCA</th>
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<tbody>
<tr>
<td>Carbon Fiber</td>
<td>≥ 96%</td>
<td>Carbon Fiber</td>
<td></td>
<td>7440-44-0</td>
<td>Registered</td>
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<tr>
<td>Sizing Agent</td>
<td>≤ 4%</td>
<td>Trade Secret</td>
<td></td>
<td></td>
<td>Registered</td>
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</tbody>
</table>

4- FIRST AID MEASURES

Eye contact: Flush eyes with water for 15 minutes.
Skin contact: Wash affected areas thoroughly with soap and water.
Inhalation: Remove from the area of the dust to fresh air. Seek medical attention if you feel unwell.
Ingestion: In the event of deliberate ingestion, do not induce vomiting unless directed to do so by consulting with a doctor.

5- FIRE FIGHTING MEASURES

Flash Point: N/A
LEL: N/A
UEL: N/A

Special Fire Fighting Procedures: As in any fire, wear a self-contained breathing apparatus pressure demand (MSHA/NIOSH approved or equivalent) and full protective gear. Fight fires from a safe distance or protected areas. Fire hoses with fog nozzles may be used for controlling fires but care must be exercised not to spread flaming. Water may not always be effective for large fires.

Extinguishing Media: This material is not expected to burn in a fire. If this product is present in a fire, fight fire based on the presence of flammable materials.
6- **ACCIDENTAL RELEASE MEASURES**

**Measures For Handling Personnel:** No special measures required.

**Measures For Environmental Effects:** No special measures required.

7- **HANDLING and STORAGE**

**Handling:** Touching Carbon Fiber directly can cause transient skin irritation. Hold the paper tube while handling bobbins.

Exposure control for handling personnel: N/A  
Protective measures against fire and explosion: N/A

**Storage:** Storage in a cool, dry place. Wash hands with soap and water after handling. Wear appropriate protective clothing as described in section 8 during handling activities.

8- **EXPOSURE CONTROL / PERSONNEL PROTECTION**

**Additional advice on system design:** Ensure adequate ventilation on workstation. If dust handling systems are used they should be designed in a manner to prevent the escape of dust into the work area.

**Respiratory protection:** Breathing apparatus in the event of high concentrations. Short term: filter apparatus, filter N95. Dust may produce mechanical irritation to the mucus membranes of the nose, throat and upper respiratory tract.

**Hand protection:** Butyl rubber, > 120 min (EN 374)

**Eye protection:** Safety glasses

**Skin protection:** Mechanical irritation accompanied by itching or dermal effects may occur from exposure to material. Cleanroom type clothing that is a light weight fabric and is well ventilated and prevents the transfer of dust. Consider taping at the wrist and ankle areas to control contact with exposed areas. PPE hazard analysis based on user process should be completed.

**General protective measures:** Avoid contact with eyes. Do not inhale dust.

**Hygiene measures:** Wash hands before breaks and after work. Use barrier skin cream.

**Delimitation and monitoring of the environmental exposition:** Not determined
SAFETY DATA SHEET

<table>
<thead>
<tr>
<th>Carbon Fiber</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSDS Nr</td>
</tr>
<tr>
<td>Issue Date</td>
</tr>
</tbody>
</table>


9- PHYSICAL and CHEMICAL PROPERTIES

- **Physical State/Apperance**: Black Chopped Fiber
- **Odor**: None
- **Specific Gravity**: 1.7 – 2.0 gr/cm³
- **Vapor Pressure/Density**: Not Applicable
- **Viscosity**: Not Applicable
- **Boiling point**: Not Applicable
- **Melting point**: Not Applicable
- **Volutility**: Not Applicable
- **Solubility**:
  - in water: Not Applicable
  - in others: Not Applicable
- **Electrically Conductivity**: Yes

10- STABILITY and REACTIVITY

- **Stability**: Stable
- **Conditions to avoid**: Can react with strong oxidizing agents.
- **Incompatible materials**: See above.

**Hazardous decomposition or byproducts**: Products of combustion and decomposition depend on other materials present in the fire and the fire conditions. Burning will produce CO₂, CO, and a minute amount of N₂, HCN and H₂O. Avoid inhalation.

**Hazard polymerization**: Will not occur. Carbon fiber is basically inert.

11- TOXICOLOGICAL INFORMATION

- **Carcinogenity**: not determined
- **Epidomology**: Contact with fly or dust can cause skin irritation.
- **Teratogenicity/Toxic for reproduction**: not determined
- **Mutagenicity/Neurotoxicity**: not determined
- **Acute toxicity**: not determined
- **Chronic toxicity**: not determined
**SAFETY DATA SHEET**

<table>
<thead>
<tr>
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</tbody>
</table>


### Sub-chronic toxicity
not determined

### 12-ECOLOGICAL INFORMATION

- **Aquatic toxicity**: not determined
- **Biological degradability**: not determined
- **Bioaccumulative potential**: not determined
- **Mobility in soil**: not determined
- **General information**: Ecological data is not available.

### 13-DISPOSAL CONSIDERATIONS

**Product:**
For recycling, consult manufacturer or recycling, consult waste disposal centers.

**EU Waste Number:**
160306, 061399

**Contaminated packaging:**
Packaging that cannot be cleaned should be disposed of as for product. Uncontaminated packaging may be taken for recycling.

**EU Waste Number:**
150101, 150102

### 14-TRANSPORT INFORMATION

- **UN Number**: None
- **Labeling**: None
- **Classification Code**: None

This product is not regulated as dangerous or hazardous goods under ADR, RID, DOT, IMO, ICAO, IATA, IMDG or UN shipping.

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<tr>
<td>Revision Date</td>
<td>22.07.2015</td>
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<tr>
<td>Page Nr</td>
<td>5/7</td>
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</table>
15-REGULATORY INFORMATION

<table>
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<th>Reg.Info</th>
<th>Substance Name</th>
<th>Allowed Concentration</th>
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<tbody>
<tr>
<td>TSCA (USA)</td>
<td>N/A</td>
<td>7440-44-0 Carbon Fiber</td>
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<tr>
<td>EINECS (European Union)</td>
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<td>DSL (Canada)</td>
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<td>CAS</td>
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<tr>
<td>REACH</td>
<td>Article 6</td>
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*N/A: Not applicable

SARA Hazard Notification:

Hazard Categories Under Title III Rules (40 CFR 370) : N/A

Section 302 Extremely Hazardous Substances : N/A

Section 313 Toxic Chemicals : N/A

16-OTHER INFORMATION

DISCLAIMER:
The information and recommendations set forth above are taken from sources believed to be accurate as of the date hereof, however DowAksa İleri Kompozit Malzemeler Sanayi Ltd Sti. make no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assume no liability to any user thereof. The information is supplied upon the condition that the persons receiving it will make their own determination as to its suitability for their purposes prior to use. The information contained in this sheet does not constitute a hazard assessment and should not be used in place of the user’s own assessment of workplace risks as required by other health and safety legislation.

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ACRONYMS :

ACGIH : American Conference of Governmental Industrial Hygienists  
CAS : Chemical Abstracts Service  
DSL : Domestic Substance List  
DOT : Department of Transportation  
EINECS : European Inventory of Existing Commercial Chemical Substance  
FDA : Food and Drug Administration  
HEPA : High-Efficiency Particle Air  
IARC : International Agency for Research on Cancer  
IATA : International Air Transport Association  
ICAO : International Civil Aviation Organization  
IMO : International Maritime Organization  
MSHA : Mine Safety and Health Administration  
N/A : Not Applicable  
NTP : National Toxicology Program  
NIOSH : National Institute for Occupational Safety and Health  
OSHA : Occupational Safety and Health Administration  
RCRA : Resource Conservation and Recovery Act  
REACH : Registration, Evaluation and Authorization/Restriction of Chemicals  
SARA : Superfund Amendments and Reauthorization Act  
TSCA : Toxic Substances Control Act  
TWA : Time Weighted Average  
UN : United Nations Number

Rev. Date : 02/06/2015  
Prepared By : Ayşegül Mendi  
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