Material Safety Data Sheet

Akulon® F136-C1

Section 1. Chemical product and company identification

Product name : Akulon® F136-C1

Supplier :

DSM Engineering Plastics Europe
P.O. Box 43, 6130 AA Sittard
The Netherlands

DSM Engineering Plastics Americas
2267 W. Mill Road
Evansville, IN 47720
USA

DSM Engineering Plastics Asia Pacific
476 Li Bing Rd, ZhangJiang High-Tech Park
Pudong
Shanghai, 201203
P.R.China

DSM Engineering Plastics Korea
No.1002, Michuhol Tower
#12, Gaetboel-ro, Yeonsu-gu, Incheon,
406-740, Korea

DSM Japan Engineering Plastics
The Front Tower Shiba Koen, 6 - 8th Floor
2-6-3, Shiba Koen
Minato-ku, Tokyo 105-0011
Japan

DSM Engineering Plastics India Pvt Ltd
F 40 MIDC Industrial Area
Ranjangaon
Pune 412220
India

Material uses : plastic products

Emergency telephone number : **The Netherlands: +31 (0)46 476 55 55**

e-mail address of person responsible for this SDS : Info.Worldwise@dsm.com

Section 2. Hazards identification

Physical state : Solid. [Granules , Pellets.]

Emergency overview :

NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

No known significant effects or critical hazards. Avoid prolonged contact with eyes, skin and clothing.

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Potential acute health effects

Eyes : May cause eye irritation. (redness).

Skin : Heated material can cause thermal burns resulting in pain, redness, blistering.

Inhalation : Over-exposure by inhalation may cause respiratory irritation. (coughing)

Ingestion : There is no known acute effect after over-exposure to this product.

Potential chronic health effects

Chronic effects : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Medical conditions aggravated by over-exposure : None known.

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Remarks : Hazard of slipping on spilled product. Heated material can cause thermal burns. Electrostatic charging can occur during unloading or processing of this material. If necessary take precautionary measures against static discharges. The likelihood of adverse health effects arising from normal use of the product are considered very low. Appropriate precautions should be taken if the product is subjected to secondary processing. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Dust may cause mechanical irritation.

See toxicological information (Section 11)

Section 3. Composition/information on ingredients

Chemical description : Base polymer: Polyamide 6; CAS no. 25038-54-4

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Remarks : The components of this product are embedded in an impervious polymer matrix and are therefore not biologically available. Any hazardous constituents are fixed in the polymer matrix and therefore present a negligible exposure risk under normal conditions of processing and handling. Additives contained in this product do not pose a risk to health unless they are liberated during processing (fumes from melting, dusts). Suitable Industrial Hygiene precautions should be implemented to prevent (respirable) dust and fume exposures. Exposure to (melting) fumes should be kept as low as possible, using suitable ventilation equipment. Dusts and fumes created from secondary processing may be irritating to respiratory tract and skin and should be considered as potentially hazardous. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Section 4. First aid measures

Eye contact : Rinse with plenty of running water. Get medical attention if symptoms occur.

Skin contact : Rinse with plenty of running water. Do not pull coagulated product loose. Get medical attention.

Inhalation : If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Ingestion : If swallowed, rinse mouth with water (only if the person is conscious). Get medical attention if symptoms occur.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Section 5. Fire-fighting measures

Flammability of the product : No specific fire or explosion hazard.

Hazardous thermal decomposition products : In case of fire, may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, (dense) black smoke, aldehydes, organic acids, nitrogen oxides (NO, NO_2 etc.), ammonia (NH_3), amines. Hydrogen cyanide (HCN).

Extinguishing media

Suitable : Use dry chemical powder. Alcohol-resistant foam.

Special fire-fighting procedures : Fight fire from protected location or maximum possible distance. Keep the area surrounding the fire cool. Avoid contact with heated material.

Protection of fire-fighters : Wear suitable protective clothing. Self-contained breathing apparatus.

Section 6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : No special measures required.

Methods for cleaning up : No special recommendations.

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Section 7. Handling and storage

Handling : Use with adequate ventilation. Local exhaust ventilation should be provided. Avoid creating dusty conditions and prevent wind dispersal. Take measures against static discharge. Keep away from sources of ignition.

Storage : Store in a fireproof location. Keep away from incompatible materials and avoid specific conditions (See section 10).

Remarks : Never stack pallets more than two high to prevent the risk of them falling over. Big Bags may not be stacked. Pallets should not be stacked along the aisles. In case the material is delivered in bulk silo, the silo can contain 0.5 bar dry air at maximum. Relief pressure via vent line. Never use the manlid for pressure relief.

Section 8. Exposure controls/personal protection

Engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. When handling hot material, wear heat-resistant protective gloves that are able to withstand the temperature of molten product.

Product name	Exposure limits
Not available	

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

Physical state : Solid. [Granules , Pellets.]

Flash point : Closed cup: >355°C (>671°F)

Auto-ignition temperature : >420°C (>788°F)

Color : naturally opaque, dependent on the added pigment

Melting/freezing point : 220 to 230°C (428 to 446°F)

Specific gravity : >1

Solubility : Insoluble in the following materials: cold water.

Section 10. Stability and reactivity

Stability and reactivity : The product is stable.

Conditions to avoid : No special recommendations.

Materials to avoid : No special recommendations.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Remarks : At processing temperatures some degree of thermal degradation may occur. see section 5.

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Section 11. Toxicological information

Acute toxicity

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitizer

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Remarks : The components of this product are embedded in an impervious polymer matrix and are therefore not biologically available. The likelihood of adverse health effects arising from normal use of the product are considered very low.

Section 12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Persistence/degradability

Conclusion/Summary : Not available.

Other adverse effects : No known significant effects or critical hazards.

Remarks : This product is not biodegradable and not toxic to aquatic organisms. The components of this product are embedded in an impervious polymer matrix and are therefore not biologically available.

Section 13. Disposal considerations

Waste disposal : Waste must be disposed of in accordance with national and local environmental regulations.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Consult your local or regional authorities.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.		-	-		-
TDG Classification	Not regulated.		-	-		-
Mexico Classification	Not regulated.		-	-		-
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.		-	-		-

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IATA-DGR Class	Not regulated.	-	-	-		-

PG* : Packing group

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Remarks : In case the material is delivered in bulk silo, the silo can contain 0.5 bar dry air at maximum. Relief pressure via vent line. Never use the manlid for pressure relief.

Section 15. Regulatory information

HCS Classification : Not regulated.

U.S. Federal regulations :

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

State regulations : **Connecticut Carcinogen Reporting**: None of the components are listed.
Connecticut Hazardous Material Survey: None of the components are listed.
Florida substances: None of the components are listed.
Illinois Chemical Safety Act: None of the components are listed.
Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
Louisiana Reporting: None of the components are listed.
Louisiana Spill: None of the components are listed.
Massachusetts Spill: None of the components are listed.
Massachusetts Substances: None of the components are listed.
Michigan Critical Material: None of the components are listed.
Minnesota Hazardous Substances: None of the components are listed.
New Jersey Hazardous Substances: None of the components are listed.
New Jersey Spill: None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
New York Acutely Hazardous Substances: None of the components are listed.
New York Toxic Chemical Release Reporting: None of the components are listed.
Pennsylvania RTK Hazardous Substances: None of the components are listed.
Rhode Island Hazardous Substances: None of the components are listed.

Canada inventory : Not determined.

Remarks : Not controlled under WHMIS (Canada). All components in compliance with (N)DSL Inventory requirements.

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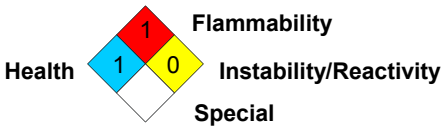
Section 16. Other information

Label requirements : NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

National Fire Protection Association (U.S.A.) :



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Notice to reader

The information contained in the Material Safety Data Sheet is based on our data available on the date of publication. The information is intended to aid the user in controlling the handling risks; it is not to be construed as a warranty or specification of the product quality. The information may not be or may not altogether be applicable to combinations of the product with other substances or to particular applications.
The user is responsible for ensuring that appropriate precautions are taken and for satisfying themselves that the data are suitable and sufficient for the product's intended purpose. In case of any unclarity we advise consulting the supplier or an expert.

Sources of key data : Literature data and/or investigation reports are available through the manufacturer.

Alterations compared to the previous version : Alterations compared to the previous version are marked with a little (blue) triangle.