

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended.

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

1.1 Product identifier

Product name: UNEX 4046

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Polyester Aromatic

Uses advised against: None identified.

1.3 Details of the supplier of the safety data sheet

Supplier

DAKOTA COATINGS N.V.
Industriepark De Prijkels
Venecoweg 23
B – 9810 Nazareth
Tel. +32/9 381 09 90
Fax +32/9 381 09 80
info@dakotaworldwide.com

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

The product has been classified according to the legislation in force.

Classification according to Regulation (EC) No 1272/2008 as amended

Not classified.

2.2 Label elements according to Regulation (EC) No 1272/2008 as amended

Not applicable

2.3 Other hazards: None identified.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Regulation No. 1272/2008.

This product has no known hazards under applicable law.

See Section 15 for Regulation (EC) No. 1907/2006 REACH Article 59(1). Candidate List (Substances of Very High Concern (SVHC))

SECTION 4: First aid measures

General: IF exposed or concerned: Get medical advice/attention.

4.1 Description of first aid measures

Inhalation: Remove exposed person to fresh air if adverse effects are observed.

Eye contact: If hot melted material should splash into the eyes, flush eyes immediately with water for 15 minutes while holding the eyelids open. Immediately call a poison center or doctor. Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses.

Skin Contact: For contact with molten product, do not remove contaminated clothing. Flush skin immediately with large amounts of cold water. If possible submerge area in cold water. Pack with ice. DO NOT attempt to peel polymer from skin. Seek medical attention immediately. Wash skin thoroughly with soap and water. If skin irritation or rash occurs: Get medical attention. Launder contaminated clothing before reuse.

Ingestion: Treat symptomatically. Get medical attention. No specific first aid measures noted.

Personal Protection for First-aid Responders: When providing first aid always protect yourself against exposure to chemicals or blood born diseases by wearing gloves, masks and eye protection. After providing first aid wash your exposed skin with soap and water.

4.2 Most important symptoms and effects, both acute and delayed: Symptoms may be delayed. See section 11.

4.3 Indication of any immediate medical attention and special treatment needed

Hazards: No data available.

Treatment: Treat symptomatically.

SECTION 5: Firefighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

5.1 Extinguishing media

Suitable extinguishing media: Use water spray, dry chemical or foam for extinction. CO₂ may be ineffective on large fires.

Unsuitable extinguishing media: Not determined.

5.2 Special hazards arising from the substance or mixture

See section 10 for additional information.

5.3 Advice for firefighters

Special fire fighting procedures: Thermoplastic polymers can burn. Protect product from flames; maintain proper clearance when using heat devices, etc. Irritating or toxic substances will be emitted upon burning, combustion or decomposition. Large masses of molten polymer held at elevated temperatures for extended periods of time may auto-ignite.

Special protective equipment for fire-fighters: Recommend wearing self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

No data available.

6.2 Environmental Precautions:

Avoid release to the environment. Prevent further leakage or spillage if safe to do so.

6.3 Methods and material for containment and cleaning up:

Pick up free solid for recycle and/or disposal.

6.4 Reference to other sections:

See sections 8 and 13 for additional information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Contact with heated material may cause thermal burns. For most thermoplastic polyurethanes, melt processing is in the range of 177 – 232 deg. C (350 - 450 deg. F), however, some products may process at different temperatures. Heating above the maximum handling temperature can generate hazardous decomposition products (see Section 10). Review the temperature data in the "Maximum Handling Temperature" included in this section for processing temperature not to be exceeded.

Fume condensates may include hazardous contaminants from additives. Condensate may be combustible and should be periodically removed from exhaust hoods, ductwork, and other surfaces. Impervious gloves should be worn during cleanup operations to prevent skin contact.

Post thermal processing activities necessary to produce molded articles (such as cutting, sanding, sawing, grinding, drilling, or regrinding) may create dust or "fines." Powders, dust, and/or fines may pose a dust explosion hazard. Avoid breathing dust.

Loading and unloading operations may cause nuisance dust to form. Electrostatic buildup may occur when pouring or transferring this product from its container. The spark produced may be sufficient to ignite vapors of flammable liquids. Always transfer product by means which avoid static buildup. Avoid pouring product directly from its container into combustible or flammable solvent.

Conduct any operations emitting fumes or vapors (including thermoforming, heat joining, cutting and or sealing of articles and clean up) under well-ventilated conditions. Avoid breathing process vapors. Do not hold product for extended periods of time at elevated temperatures or allow thick masses of hot polymer to accumulate because they can decompose emitting hazardous gasses. Do not taste, swallow, or chew products. Wash thoroughly after processing. Do not store or consume food in processing areas. The major off-gasses from normal melt processing are expected to be water vapor and carbon dioxide. Other trace volatile organic components may also be emitted.

Do not steam sterilize articles made with TPU resins. Methylene dianiline can be formed under these conditions.

Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Launder contaminated clothing before reuse. Avoid environmental contamination.

Maximum Handling Temperature: Not determined.

7.2 Conditions for safe storage, including any incompatibilities:

Store in dry, well ventilated place away from sources of heat and direct sunlight. Store away from incompatible materials. See section 10 for incompatible materials.

Maximum Storage Temperature:

221°C

7.3 Specific end use(s): End uses are listed in an attached exposure scenario when one is required.

SECTION 8: Exposure controls/personal protection

8.1 Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

8.2 Exposure controls

Appropriate engineering controls: Provide adequate ventilation. Thermal processing operations should be ventilated to control gases and fumes given off during processing.

Individual protection measures, such as personal protective equipment

General information: Use personal protective equipment as required.

Eye/face protection: If contact is likely, safety glasses with side shields are recommended.

Skin protection

Hand Protection: To avoid burns from contact with molten product, use thermal insulating gloves. Suitable gloves can be recommended by the glove supplier.

Other: Long sleeve shirt is recommended. Gloves, coveralls, apron, boots as necessary to minimize contact. Do not wear rings, watches or similar apparel that could entrap the material.

Respiratory Protection: Under normal use conditions, respirator is not usually required. Use appropriate respiratory protection if exposure to dust particles, mist or vapors is likely. Cutting operations may create small particles from this product. If inhalation of particles cannot be avoided, wear a dust respirator. Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. A respiratory protection program compliant with all applicable

regulations must be followed whenever workplace conditions require the use of a respirator.

Hygiene measures: Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Observe good industrial hygiene practices. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace.

Environmental Controls: No data available. See section 6 for details.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state: solid

Form: Powder

Color: Natural

Odor: Faint

Odor Threshold: No data available.

pH: No data available.

Melting Point: No data available.

Boiling Point: No data available.

Flash Point: Not applicable.

Evaporation Rate: No data available.

Flammability (solid, gas): No data available.

Upper/lower limit on flammability or explosive limits

Flammability Limit - Upper (%): No data available.

Flammability Limit - Lower (%): No data available.

Vapor pressure: No data available.

Vapor density (air=1): No data available.

Solubility(ies)

Solubility in Water: Insoluble in water

Solubility (other): No data available.

Partition coefficient (n-octanol/water): No data available.

Autoignition Temperature: No data available.

Decomposition Temperature: No data available.

Viscosity: No data available.

Explosive properties: No data available.

Oxidizing properties: No data available.

VOC Content: No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity: No data available.

10.2 Chemical Stability: Material is stable under normal conditions.

10.3 Possibility of hazardous reactions: Will not occur.

10.4 Conditions to avoid: None known.

10.5 Incompatible Materials: None known, avoid contact with reactive chemicals.

10.6 Hazardous Decomposition Products: May also include isocyanates and small amounts of hydrogen cyanide. Thermal decomposition or combustion may generate smoke, carbon monoxide, carbon dioxide, nitrogen oxides, and other products of incomplete combustion.

SECTION 11: Toxicological information

Information on likely routes of exposure

Inhalation: No data available.

Ingestion: No data available.

Skin Contact: No data available.

Eye contact: No data available.

11.1 Information on toxicological effects

Acute toxicity

Oral

Product: Not classified for acute toxicity based on available data.

Dermal

Product: Not classified for acute toxicity based on available data.

Inhalation

Product: Not classified for acute toxicity based on available data.

Skin Corrosion/Irritation:

Product: Not classified as a primary skin irritant.

Serious Eye Damage/Eye Irritation

Product: Not classified as a primary eye irritant.

Respiratory sensitization: No data available

Skin sensitization: No data available

Specific Target Organ Toxicity - Single Exposure: No data available

Aspiration Hazard: No data available

Chronic Effects

Carcinogenicity: No data available

Germ Cell Mutagenicity: No data available

Reproductive toxicity: No data available

Specific Target Organ Toxicity - Repeated Exposure: No data available

SECTION 12: Ecological information

12.1 Ecotoxicity

Fish: No data available

Aquatic Invertebrates: No data available

Toxicity to Aquatic Plants: No data available

Toxicity to soil dwelling organisms: No data available

Sediment Toxicity: No data available

Toxicity to Terrestrial Plants: No data available

Toxicity to Above-Ground Organisms: No data available

Toxicity to microorganisms: No data available

12.2 Persistence and Degradability

Biodegradation: No data available

BOD/COD Ratio: No data available

12.3 Bioaccumulative Potential

Bioconcentration Factor (BCF): No data available

Partition Coefficient n-octanol / water (log Kow): No data available

12.4 Mobility: 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

Disposal methods: Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

Dispose of packaging or containers in accordance with local, regional, national and international regulations. Empty container contains product residue which may exhibit hazards of product.

Contaminated Packaging: Container packaging may exhibit hazards.

SECTION 14: Transport information

ADR: Not regulated
IMDG: Not regulated
IATA: Not regulated

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code None known.

Shipping descriptions may vary based on mode of transport, quantities, temperature of the material, package size, and/or origin and destination. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material. For transportation, steps must be taken to prevent load shifting or materials falling, and all relating legal statutes should be obeyed. Review classification requirements before shipping materials at elevated temperatures.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulations

Regulation (EC) No. 2037/2000 Substances that deplete the ozone layer:

None present or none present in regulated quantities.

Regulation (EC) No. 850/2004 on persistent organic pollutants:

None present or none present in regulated quantities.

Regulation (EC) No. 689/2008 Import and export of dangerous chemicals:

None present or none present in regulated quantities.

Regulation (EC) No. 1907/2006, REACH Article 59(1). Candidate List:

None present or none present in regulated quantities.

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None present or none present in regulated quantities.

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use:

None present or none present in regulated quantities.

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work.:

None present or none present in regulated quantities.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breast feeding.:

None present or none present in regulated quantities.

Directive 96/82/EC (Seveso II): on the control of major accident hazards involving dangerous substances:

None present or none present in regulated quantities.

EU. Regulation No. 166/2006 PRTR (Pollutant Release and Transfer Registry), Annex II: Pollutants:

None present or none present in regulated quantities.

Directive 98/24/EC on the protection of workers from the risks related to chemical agents at work:

None present or none present in regulated quantities.

Inventory Status

Australia (AICS)

May require notification before sale under Australian regulations.

Canada (DSL/NDL)

May require notification before sale under Canadian regulations.

China (IECSC)

This product contains a substance or polymer that has been notified and is restricted to import by the notifier.

European Union (REACH)

To obtain information on the REACH compliance status of this product, please e-mail info@Dakotaworldwide.com.

Japan (ENCS)

All components are in compliance with the Chemical Substances Control Law of Japan.

Korea (ECL)

May require notification before sale in Korea.

New Zealand (NZIoC)

All components are in compliance with chemical notification requirements in New Zealand.

Philippines (PICCS)

All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).

Switzerland (SWISS)

All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.

Taiwan (TCSCA)

May require notification before sale in Taiwan.

United States (TSCA)

All components of this material are in compliance with Section 5 of TSCA. This material is manufactured under the Polymer Exemption rule.

The information that was used to confirm the compliance status of this product may deviate from the chemical information shown in Section 3.

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Key literature references and sources for data:

Internal company data and other publically available resources.

Revision Indicators This MSDS has no revisions since 28 June 2016

THIS SDS COVERS THE FOLLOWING MATERIALS: Unex resins, for which the grade name consists of a base polymer that may or may not be followed by a suffix. Applicable designations follow:

Base polymers : 4046

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