



MATERIAL SAFETY DATA SHEET
According to Regulation (EU) No 1907/2006.

Section 1 Identification of substance/mixture and of the company/undertaking

1.1 Product Identifier

DAKOTEX thermoplastic polyurethane

Product description Thermoplastic polyurethane polyester based, see Section 16 for applicable grades.

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

Relevant identified uses (see section 7.3 for information on REACH registered uses)

Intended Use: Adhesive component, Coating.

Uses advised against: None unless specified elsewhere in this SDS.

1.3 Details of the supplier of the safety data sheet

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Section 2 Hazards Identification

2.1 Classification of the substance or mixture

Classification (1272/2008/CE):

No classification in accordance with the Directive (EC) No. 1272/2008.

Classification (2006/121/EC, 1999/45/EC):

No classification according to EC Directives 2006/121/EC or 1999/45/EC.

2.2 Label elements

Labelling (1272/2008/CE):

No labeling necessary according to the Directive (EC) No. 1272/2008.

Labelling (2006/121/EC, 1999/45/EC):

No labeling necessary according to EC Directives 2006/121/EC or 1999/45/EC.

2.3 Other hazards

None identified.

Section 3 Composition/Information on Ingredients

3.1 Substances Not Applicable. This material is regulated as a mixture.

3.2 Mixtures Type of product: Mixture. Thermoplastic polyurethane

Section 4 First Aid Measures

4.1 Description of first aid measures

Skin CONTACT WITH THE HOT MELT: Cool immediately with plenty of water. Do not remove product crusts which may have formed neither forcibly nor by applying any solvents to the skin involved. To obtain treatment for possible burns, and appropriate skin care, seek medical advice immediately. The following information refers to the handling of the product at room temperature. In case of skin contact wash affected areas thoroughly with soap and plenty of water.

Eyes Treat as any foreign particulate matter. If hot melted material should splash into the eyes, flush eyes immediately with water for 15 minutes while holding the eyelids open. See a physician for treatment.

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

Swallowed Treat symptomatically. Get medical attention.

Advice for first-aid providers

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

See section 11.

4.3 Indication of any immediate medical attention and special treatment needed

Note to physician: Treat symptomatically.

Section 5 Fire Fighting Measures

5.1 Extinguishing Media

Water spray, dry chemical, foam. CO2 may be ineffective on large fires.

5.2 Special hazards arising from substance or mixture

Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes.

5.3 Advice for firefighters

Firemen must wear self-contained breathing apparatus.

Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters.

Section 6 Accidental Release Measures
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6.1 Personal precautions, protective equipment and emergency procedures

Put on protective equipment (see section 8). Powder - slip hazard! Ensure adequate ventilation/exhaust extraction. Keep unauthorized persons away.

6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3 Methods and material for containment and cleaning up

Use mechanical handling equipment. Avoid dust formation. Sweep up and shovel into suitable containers for disposal.

6.4 Reference to other sections

For further disposal measures see section 13.

Section 7 Handling and Storage

7.1 Precautions for safe handling

Adequate ventilation and if necessary, effective exhaust must be provided at the workplace when opening packaging, drying product and processing the material. Under recommended processing conditions small amounts of emissions may occur. Provided good ventilation and/or local exhaust systems are used, the Workplace Exposure Limit(s) stated in section 8 should not be exceeded. Dust must be removed by effective exhaust ventilation. Keep away from foodstuffs, drinks and tobacco. Wash hands and face before breaks and at the end of work. Keep working clothes separately. Change contaminated clothing.

7.2 Conditions for safe storage, including any incompatibilities

Keep packaging tightly closed and dry.

Storage temperature: < 40 °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
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The regulations for the substances listed below must be observed when processing this product,

particularly if processing takes place at elevated temperatures. In our experience the provision of effective fresh-air and exhaust ventilation equipment at the points where vapors may be generated will ensure compliance with the tolerance limits quoted below.

8.1 Control parameters

Substance	Cas-No.	Basis	Type	Value	Ceiling Limit Value	Remarks
Tetrahydrofuran	109-99-9	TRGS 900	TLV	50 ppm 150 mg/m ³	2	Y
Tetrahydrofuran	109-99-9	TRGS 900	Skin			Dermal absorption possible
Tetrahydrofuran	109-99-9	TRGS 900	STEL CL			Category I: substances for which the localized effect has an assigned OEL respiratory passages.
Tetrahydrofuran	109-99-9	EU ELV	TWA	50 ppm 150 mg/m ³		
Tetrahydrofuran	109-99-9	EU ELV	STEL	100 ppm 300 mg/m ³		
Tetrahydrofuran	109-99-9	EU ELV	Skin			Dermal absorption possible
General limiting value of dust		TRGS 900	TLV	10 mg/m ³	2	inhalable fraction
General limiting value of dust		TRGS 900	TLV	3 mg/m ³	2	alveolar fraction
General limiting value of dust		TRGS 900	STEL CL			Category II: substances with a resorptive effect.

8.2 Exposure controls

Respiratory protection: In case of dust formation use respiratory equipment with filter type particle filter P1 according to EN 143.

Hand protection: Suitable materials for safety gloves; EN 374: Polyvinyl chloride - PVC (>= 0.5 mm) Contaminated and/or damaged gloves must be changed.

Eye protection: Wear eye/face protection.

Skin and body protection: Wear suitable protective clothing.

Further protective measures: Do not breathe dust/vapor. Grease skin.

Section 9	Physical and Chemical Properties
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9.1 Information on basic physical and chemical properties

Appearance Powder.

Colour Different according to colouration.

Odour Almost odourless.

pH Not applicable.

Softening Point > 120°C.

Lower flammability or explosive limit Not applicable.

Upper flammability or explosive limit Not applicable.

Vapour Pressure Not applicable.

Relative density 1.2 (20 °C).

Water Solubility Practically insoluble.

Autoignition Point Not applicable.

Ignition Temperature > 210°C.

Viscosity Not applicable.

9.2 Other information

The above data are typical values and do not constitute a specification.

Section 10 Stability and Reactivity

10.1 Reactivity

Carefully review all information provided in sections 10.2 - 10.6.

10.2 Chemical stability

Material is normally stable at moderately elevated temperatures and pressures.

Decomposition begins at 230 °C.

10.3 Possibility of hazardous reactions

No hazardous reactions observed.

10.4 Conditions to avoid

Not determined.

10.5 Incompatible materials

None known, avoid contact with reactive chemicals.

10.6 Hazardous decomposition products

Smouldering or incomplete combustion leads to the formation of toxic gas mixtures consisting mainly of CO, CO₂ and nitrogen oxides.

Section 11 Toxicological Information

11.1 Information on toxicological effects

For risk assessment data of a similar product:

Acute toxicity LD₅₀ oral, rat: > 5000 mg/kg

Acute toxicity LD₅₀ subcutaneous, rat: > 5000 mg/kg

Primary skin irritation, rabbit: non-irritant

Primary mucosae irritation, rabbit: non-irritant

Skin sensitisation according to Magnusson/Kligmann (maximizing test): No sensitisation established on guinea-pigs.

Under recommended processing conditions small amounts of isocyanates may be emitted. Exceeding the recommended processing temperatures leads to a significant increase in the amount of isocyanate vapor generated.

Over-exposure entails a risk of concentration-dependent inhalatory irritation and/or sensitization by isocyanates (delayed appearance of difficult breathing, coughing, asthma is possible).

The regulations for the substances listed below must be observed when processing this product, particularly if processing takes place at elevated temperatures.

Substance	CAS-No.	R-phrases
Isocyanates (all, as -NCO)		R42 May cause sensitization by inhalation.
Tetrahydrofuran	109-99-9	R36/37 Irritating to eyes and respiratory system.

Additional information:

According to our experience and information the product has no harmful effects on health if properly handled.

Section 12 Ecological Information

12.1 Toxicity

Ecotoxicological studies of the product are not available.
Do not allow to escape into waterways, wastewater or soil.
For risk assessment data of a similar product:

12.2 Persistence and degradability

Biodegradation: 1 %, 28 d, i.e. not readily degradable
Method: OECD Test Guideline 301 F

12.3 Bioaccumulative potential

Not applicable.

12.4 Mobility in soil

Not applicable.

12.5 Results of PBT and vPvB assessment

Not Available

12.6 Additional information on ecotoxicology

The product does not add to the AOX-value of effluent water (DIN 38409).
On the basis of the ecotoxicological data, the product can be classified as non-hazardous to fish and daphnia.

Section 13 Disposal Considerations

13.1 Waste treatment methods

Dispose in accordance with applicable international, national and local laws, ordinances and statutes. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

After packaging has been emptied as thoroughly as possible (e.g. by pouring, scraping or draining until "drip-dry"), they can be sent to an appropriate collection point set up within the framework of the existing take-back scheme of the chemical industry. Packaging must be recycled in compliance with national legislation and environmental regulations. The product is suitable for mechanical recycling. After appropriate treatment it can be remelted and reprocessed into new moulded articles. Mechanical recycling is only possible if the material has been selectively retrieved and carefully segregated according to type.

None disposal into waste water.

Section 14 Transport Information

ADR/RID Not dangerous goods

ADN Not dangerous goods

IATA Not dangerous goods

IMDG Not dangerous goods

Special precautions for user : Not dangerous cargo.
Slight smell. Keep dry.
Keep separated from foodstuffs.

Section 15 Regulatory Information

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

Water contaminating class (Germany): nw not water endangering
(in accordance with Annex 1 to the Directive on Water-Hazardous Substances)

15.2 Chemical safety assessment

No chemical safety assessment has been carried out.

Section 16	Other Information
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Revision Indicators This MSDS has no revisions since 01 September 2014

THIS SDS COVERS THE FOLLOWING MATERIALS: Dakotex 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 : 8086 / 8093

Suffixes: Black / Blue / Bluegreen / Green / Naturel / White / LBN 15099

List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:

Acronym	Full text
ADR	European Agreement concerning the international carriage of dangerous goods by road
ADN	European Agreement concerning the international carriage of dangerous goods by inland waterways
AICS	Australian Inventory of Chemical Substances
AIHA WEEL	American Industrial Hygiene Association Workplace Environmental Exposure Limits
ASTM	ASTM International, originally known as the American Society for Testing and Materials (ASTM)
ATP	Adaptation to technical progress
BCF	Bioconcentration factor
BetrSichV	German Ordinance on Industrial Safety and Health
c.c.	Closed cup
CAS	Chemical Abstract Services
CESIO	European Committee of Organic Surfactants and their Intermediates
ChemG	German Chemicals Act
CLP	Classification, Labelling and Packaging
CMR	Carcinogenic-mutagenic-toxic for reproduction
DIN	German Institute of Standardization
DMEL	Derived minimum effect level
DNEL	Derived no effect level
DSL	Domestic Substance List (Canada)
EC	Effective Concentration
EC50	Half maximal effective concentration
EINECS	European Inventory of Existing Commercial Substances
EL	Effective Loading
ELINCS	European List of Notified Chemical Substances
ENCS	Existing and new Chemical Substances (Japanese inventory)
GefStoffV	German Ordinance on Hazardous Substances
GGVSEB	German ordinance for road, rail and inland waterway transportation of dangerous goods
GGVSee	German ordinance for sea transportation of dangerous goods
GLP	Good Laboratory Practice
CHS	Globally Harmonised System
GMO	Genetic Modified Organism
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
ISO	International Organization for Standardization
KECI	Korean Existing Chemicals Inventory
LC	Lethal Concentration
LD	Lethal Dose
LL	Lethal Loading
LOAEL	Lowest Observable Adverse Effect Level
LOEL	Lowest Observable Effect Level
N/A	Not applicable
N/D	Not determined
NE	Not established

NDSL	Non-Domestic Substances List (Canada)
NOAEL	No Observable Adverse Effect Level
NOEC	No Observable Effect Concentration
NOEL	No Observable Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
o.c.	Open cup
OECD	Organisation for Economic Cooperation and Development
OEL	Occupational Exposure Limit
PBT	Persistent, bioaccumulative, toxic
PEC	Predicted effect concentration
PICCS	Philippine Inventory of Chemicals and Chemical Substances
PNEC	Predicted no effect concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Convention concerning International Carriage by Rail
STOT	Specific Target Organ Toxicity
SVHC	Substances of Very High Concern
TA	Technical Instructions
TLV	Threshold Limit Value (American Conference of Governmental Industrial Hygienists)
TPR	Third Party Representative (Art. 4)
TRGS	Technical Rules for Hazardous Substances
TSCA	Toxic Substances Control Act (U.S. inventory)
UVCB	Substances of Unknown or Variable composition, Complex reaction products or Biological materials
VCI	German chemical industry association
vPvB	Very persistent, very bioaccumulative
VOC	Volatile Organic Compound
VwVwS	German Administrative Regulation on the Classification of Substances Hazardous to Waters into Water Hazard Classes
WGK	Water Hazard Class
WHO	World Health Organisation

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