

**KEVLAR® Para-aramid**

Version 5.0

Revision Date 03/28/2017

Ref. 150000002634

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	KEVLAR® Para-aramid
Tradename/Synonym	:	formerly MSDS# SP1889
Product Grade/Type	:	Yarn, Staple, Floc, Fabric
Product Use	:	Fiber manufacturing, For industrial use only.
Restrictions on use	:	Do not use product for anything outside of the above specified uses.
Manufacturer/Supplier	:	DuPont 974 Centre Road Wilmington, Delaware 19805
Product Information	:	1-800-931-3456
Medical Emergency	:	1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency	:	CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Product hazard category
Combustible dust

Label content

Pictogram : not required

Signal word : Warning

**KEVLAR® Para-aramid**

Version 5.0

Revision Date 03/28/2017

Ref. 150000002634

Hazardous warnings : May form combustible dust concentrations in air.

Hazardous prevention : not required
measures

Other hazards

The hazards of this product are associated mainly with its processing. If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Para-aramid fiber	26125-61-1	>85%

SECTION 4. FIRST AID MEASURES

General advice : No hazards which require special first aid measures. If symptoms persist, call a physician. If irritation occurs, flush area thoroughly with water.

Inhalation : No applicable data available.

Skin contact : No applicable data available.

Eye contact : No applicable data available.

Ingestion : No applicable data available.



KEVLAR® Para-aramid

Version 5.0

Revision Date 03/28/2017

Ref. 150000002634

Most important symptoms/effects, acute and delayed : No applicable data available.
 Protection of first-aiders : No applicable data available.
 Notes to physician : No applicable data available.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
 Unsuitable extinguishing media : No applicable data available.
 Specific hazards : Hazardous decomposition products formed under fire conditions.
 Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
 Further information : No applicable data available.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel) : None.
 Environmental precautions : Do not let product enter drains.
 Spill Cleanup : Avoid dust formation. Clean up dusts and fibres with high efficiency particulate air (HEPA) filtered vacuum equipment, or by wet cleaning.
 Accidental Release Measures : No applicable data available.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel) : Avoid dust formation. Exposure to fibre fly, dust and decomposition products of spinfinishes should be avoided by ventilation and/or vacuum cleaning. High

**KEVLAR® Para-aramid**

Version 5.0

Revision Date 03/28/2017

Ref. 150000002634

concentrations of dust can irritate eyes, nose and respiratory system and cause coughing and sneezing. Continual rubbing of fibre particulates and dust on the skin can cause a transitory, mild irritation with redness or itching. Do not touch moving threadlines. Entanglement with this fibre can severely cut or even sever fingers. Avoid breathing dust.

Handling (Physical Aspects) : No applicable data available.
Dust explosion class : No applicable data available.
Storage : Keep away from direct sunlight.

Storage period : No applicable data available.

Storage temperature : No applicable data available.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls : Ensure adequate ventilation. Recirculated air should be filtered to remove respirable dust. Provide for appropriate exhaust ventilation and dust collection at machinery. Static charges can cause explosions in solvent and dust laden atmospheres. Provide grounding of equipment to prevent static build-up.

Personal protective equipment

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Eye protection : Safety glasses with side-shields

Exposure Guidelines**Exposure Limit Values****Para-aramid**

AEL *	(DuPont)	2 RFP/cc	8 & 12 hr. TWA	Respirable fibers.
AEL *	(DuPont)	5 mg/m ³	8 & 12 hr. TWA	Non-fibrous particulate and/or non-respirable fibres.

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

**KEVLAR® Para-aramid**

Version 5.0

Revision Date 03/28/2017

Ref. 150000002634

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state : solid
Form : Nonwoven fabric, woven fabric, fibres, yarn
Color : various

Odor : odourless

Odor threshold : No applicable data available.

pH : No applicable data available.

Melting point/freezing point : Melting point/range
Not applicable

Boiling point/boiling range : Boiling point/boiling range
Not applicable

Flash point : Not applicable

Evaporation rate : No applicable data available.

Flammability (solid, gas) : May form combustible dust concentrations in air.

Upper explosion limit : No applicable data available.

Lower explosion limit : No applicable data available.

Vapour Pressure : No applicable data available.

Vapour density : No applicable data available.

Specific gravity (Relative density) : 1.44 - 1.45 at 20 °C (68 °F)

Water solubility : insoluble

Solubility(ies) : No applicable data available.

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

**KEVLAR® Para-aramid**

Version 5.0

Revision Date 03/28/2017

Ref. 150000002634

Auto-ignition temperature : No applicable data available.

Ignition temperature : does not ignite

Decomposition temperature : > 300 °C

Viscosity, kinematic : No applicable data available.

Viscosity, dynamic : No applicable data available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No applicable data available.

Chemical stability : No applicable data available.

Possibility of hazardous reactions : No applicable data available.

Conditions to avoid : No applicable data available.

Incompatible materials : Strong acids and strong bases

Hazardous decomposition products : Hazardous thermal decomposition products:: Carbon dioxide
Nitrogen oxides (NOx) , Hydrogen cyanide (gaseous) , Ammonia, anhydrous
Aldehydes, Hydrocarbons

SECTION 11. TOXICOLOGICAL INFORMATION

KEVLAR® Para-aramid
Sensitisation : Patch test on human volunteers did not demonstrate sensitisation properties.

Para-aramid fiber
Inhalation : Rat
An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

Dermal : The substance is a polymer and is not expected to produce toxic effects.

Oral LD50 : > 7,500 mg/kg , Rat

Skin irritation : No skin irritation, Guinea pig

**KEVLAR® Para-aramid**

Version 5.0

Revision Date 03/28/2017

Ref. 150000002634

Repeated dose toxicity	: Inhalation Rat - Respiratory irritation
Carcinogenicity	: Not classifiable as a human carcinogen. Overall weight of evidence indicates that the substance is not carcinogenic.
Mutagenicity	: Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Evidence suggests this substance does not cause genetic damage in animals.

Carcinogenicity

The carcinogenicity classifications for this product and/or its ingredients have been determined according to HazCom 2012, Appendix A.6. The classifications may differ from those listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or those found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition).

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 12. ECOLOGICAL INFORMATION

Additional ecological information : No data is available on the product itself.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods - Product : Can be landfilled or incinerated, when in compliance with local regulations.
Do not flush into surface water or sanitary sewer system.

Contaminated packaging : No applicable data available.

SECTION 14. TRANSPORT INFORMATION

**KEVLAR® Para-aramid**

Version 5.0

Revision Date 03/28/2017

Ref. 150000002634

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

- | | |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TSCA (US) Status | : On the inventory, or in compliance with the inventory |
| SARA 313 Regulated Chemical(s) | : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313. |
| California Prop. 65 | : This product contains a chemical that is at or below California Propositions 65's "safe harbor level" as determined via a risk assessment. Therefore, the chemical is not required to be listed as a Prop 65 chemical on the MSDS or label. |

SECTION 16. OTHER INFORMATION

- | | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Restrictions for use | : Do not use DuPont materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of the DuPont POLICY Regarding Medical Applications and DuPont CAUTION Regarding Medical Applications. |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

It is recommended that additional information be requested if an unusual application of synthetic fibres is intended. The DuPont Oval Logo is a registered trademark of E.I. du Pont de Nemours and Company. DuPont™ is a trademark of E. I. du Pont de Nemours and Company. Kevlar® is a registered trademark of DuPont.

Revision Date : 03/28/2017

Contact person : SDS Coordinator

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage,



KEVLAR® Para-aramid

Version 5.0

Revision Date 03/28/2017

Ref. 150000002634

transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Significant change from previous version is denoted with a double bar.



KEVLAR[®] Para-aramid

Components: Para-aramid fiber, CAS No. 26125-61-1

Warning

Hazard statements: May form combustible dust concentrations in air.

Supplemental information: The hazards of this product are associated mainly with its processing. If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.

Refer to Safety Data Sheet (SDS) for further information.

DuPont
974 Centre Road, Wilmington, Delaware 19805

Product Information: 1-800-931-3456
Medical Emergency: 1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency: CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

Report version: 5.0 03/28/2017 Ref. 150000002634

The DuPont Oval Logo is a registered trademark of E.I. du Pont de Nemours and Company. DuPont[™] is a trademark of E. I. du Pont de Nemours and Company. Kevlar[®] is a registered trademark of DuPont.