



SAFETY DATA SHEET TORLON AI-50

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

1. Identification

Product identifier

Product name TORLON AI-50
Chemical name Polyamide-imide(PAI)
Product number TORL-AI-50-25KG

Recommended use of the chemical and restrictions on use

Application Industrial use.
Uses advised against This product is designed for use by technically competent persons. Any use of this product, other than for its stated use, should not be attempted without expert review.

Details of the supplier of the safety data sheet

Supplier Kurt J Lesker Company
Manufacturer Kurt J Lesker Company
 1925 Route 51
 Jefferson Hills, PA 15025
 +1 412-387-9200

 Kurt J Lesker Company LTD
 United Kingdom
 Austin House
 Sidney Little Road
 Churchfields Industrial Estate
 St Leonards on Sea, East Sussex, TN38 9PU, United Kingdom
 Customer Service: +44 (0) 1424 458100
 msds@lesker.com

Emergency telephone number

Emergency telephone Emergency Numbers
 North America [USA, Canada, Mexico]: 1-866-519-4752
 Mainland China: (+86) 4001 2001 74
 Europe: {int'l call prefix}-1-760-476-3961
 Asia Pacific: {int'l call prefix}-1-760-476-3960
 Middle East & Africa: {int'l call prefix}-1-760-476-3959
 South Korea: +080-880-0455
 Philippines: (+63) 2 83953471

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Combustible Dust - USH01
Health hazards Repr. 1B - H360

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Environmental hazards Not Classified

Label elements

Hazard symbols



Signal word Danger

Hazard statements USH01 May form combustible dust concentrations in air.
H360 May damage fertility or the unborn child.

Precautionary statements P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P308+P313 If exposed or concerned: Get medical advice/ attention.
P405 Store locked up.
P501 Dispose of contents/ container in accordance with national regulations.

Contains 2-Pyrrolidinone, 1-methyl

Other hazards

Based on available knowledge of this material, it has been determined to be non-hazardous and will not pose a risk to persons or the environment in its provided form. However, any cutting, welding, melting, grinding, or use for deposition will produce dust, fume, or particulates containing component elements of this material. Exposure to these components may present significant health hazards. Note: Fine particulate may be a combustible dust which, when dispersed in air, may present an explosion hazard.

3. Composition/information on ingredients

Mixtures

Water CAS number: 7732-18-5	60%
Poly(amide-imide) polymer CAS number: —	35%
2-Pyrrolidinone, 1-methyl CAS number: 872-50-4	5.0%

4. First-aid measures

Description of first aid measures

General information Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel.

Inhalation Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical attention if symptoms are severe or persist.

Ingestion Rinse mouth thoroughly with water. Get medical advice/attention if you feel unwell. Do not induce vomiting unless under the direction of medical personnel. Get medical attention if a large quantity has been ingested.

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Skin Contact Wash skin thoroughly with soap and water or use an approved skin cleanser. Wash contaminated clothing before reuse. Cool skin rapidly with cold water after contact with hot polymer. Do not peel polymer from the skin. Get medical attention.

Eye contact Rinse with water. Continue to rinse for at least 15 minutes and get medical attention.

Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue.

Most important symptoms and effects, both acute and delayed

General information The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation No specific symptoms known.

Ingestion No specific symptoms known.

Skin contact Prolonged contact may cause dryness of the skin. Contains components which may penetrate the skin. May cause defatting of the skin but is not an irritant. Mild dermatitis, allergic skin rash.

Eye contact No specific symptoms known. May be slightly irritating to eyes.

Indication of immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Special hazards arising from the substance or mixture

Specific hazards Combustible Material In a fire, the polymer melts, producing droplets which may propagate fire. Heating may cause a fire or explosion.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors. Carbon dioxide (CO₂). Carbon monoxide (CO). Toxic gases or vapors.

Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapors. Evacuate area. Keep upwind to avoid inhalation of gases, vapors, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk.

Environmental precautions

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Environmental precautions Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment.

Methods and material for containment and cleaning up

Methods for cleaning up Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Collect spillage with a shovel and broom, or similar and reuse, if possible. Collect and place in suitable waste disposal containers and seal securely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13. Avoid generation and spreading of dust. Avoid spreading dust or contaminated materials.

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

7. Handling and storage

Precautions for safe handling

Usage precautions Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use. May damage fertility. May damage the unborn child. Pregnant or breastfeeding women should not work with this product if there is any risk of exposure. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Storage precautions Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Avoid dust formation. Do not store near heat sources or expose to high temperatures.

Storage class Chemical storage.

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.

8. Exposure controls/Personal protection

Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Ensure the ventilation system is regularly maintained and tested. Good general ventilation should be adequate to control worker exposure to airborne contaminants. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Dust-resistant, chemical splash goggles. Wear tight-fitting, dust-resistant, chemical splash goggles if airborne dust is generated.

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Hand protection	Wear protective gloves. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with OSHA 1910.138 and be demonstrated to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.
Other skin and body protection	Wear appropriate clothing to prevent any possibility of skin contact.
Hygiene measures	Wash hands thoroughly after handling. Wash at the end of each work shift and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.
Respiratory protection	Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.
Environmental exposure controls	Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Solid. Powder.
Color	Yellow.
Odor	Amine.
Odor threshold	Not available.
pH	Not applicable.
Melting point	265°C/509°F
Initial boiling point and range	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Other flammability	Combustible Dust
Vapor pressure	Not applicable.
Vapor density	Not available.
Relative density	Not available.
Bulk density	Not available.
Solubility(ies)	Slightly soluble in water.
Partition coefficient	Not applicable.

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Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not applicable.
Explosive properties	Dust may form explosive mixture with air.
Molecular weight	Not available.

10. Stability and reactivity

Reactivity	No test data specifically related to reactivity available for this product or its ingredients.
Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
Possibility of hazardous reactions	No potentially hazardous reactions known. Will not polymerize.
Conditions to avoid	Avoid generation and spreading of dust. Avoid heat, flames and other sources of ignition. Avoid heat, flames and other sources of ignition.
Materials to avoid	Oxidizing agents.
Hazardous decomposition products	Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors. Carbon dioxide (CO ₂). Nitrous gases (NO _x).

11. Toxicological information

Information on toxicological effects

Toxicological effects	This product has low toxicity.
<u>Acute toxicity - oral</u>	
Notes (oral LD₅₀)	Based on available data the classification criteria are not met.
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	Based on available data the classification criteria are not met.
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	Based on available data the classification criteria are not met.
<u>Skin corrosion/irritation</u>	
Animal data	Based on available data the classification criteria are not met.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Based on available data the classification criteria are not met.
<u>Respiratory sensitization</u>	
Respiratory sensitization	Based on available data the classification criteria are not met.
<u>Skin sensitization</u>	
Skin sensitization	Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
Carcinogenicity	Based on available data the classification criteria are not met.

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IARC carcinogenicity	Not listed.
NTP carcinogenicity	Not listed.
OSHA Carcinogenicity	Not listed.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	May damage fertility.
Reproductive toxicity - development	May damage the unborn child.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	A single exposure may cause the following adverse effects: Chronic inflammation of nose, throat and bronchial tubes. Defatting, drying and cracking of skin.
Target organs	Respiratory tract Skin Gastro-intestinal tract, liver, immune system
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.
Target organs	No specific target organs known.
<u>Aspiration hazard</u>	
Aspiration hazard	Not relevant. Solid.
<u>General information</u>	
General information	Avoid contact during pregnancy/while nursing. May damage fertility. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	No specific symptoms known.
Ingestion	No specific symptoms known.
Skin Contact	Prolonged contact may cause dryness of the skin.
Eye contact	No specific symptoms known.
Route of exposure	Ingestion Inhalation Skin and/or eye contact
Target Organs	No specific target organs known.

12. Ecological information

Ecotoxicity	Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.
Toxicity	Based on available data the classification criteria are not met.
<u>Acute aquatic toxicity</u>	
Acute toxicity - fish	LC ₅₀ , 96 hour: >500 mg/l, Oncorhynchus mykiss (Rainbow trout)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 24 hour: >1000 mg/l, Daphnia magna, Freshwater invertebrates, Marinewater invertebrates
Acute toxicity - aquatic plants	EC ₅₀ , 72 hour: 600.5 mg/l, Desmodemus subspicatus
Acute toxicity - microorganisms	Not available.
Acute toxicity - terrestrial	LC ₅₀ , 5 days: >74.81 mg/kg, Anas Platyrhynchos (Mallard duck)
<u>Persistence and degradability</u>	

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Persistence and degradability	Rapidly degradable
Biodegradation	Rapidly degradable
<u>Bioaccumulative potential</u>	
Bio-Accumulative Potential	The product is not bioaccumulating.
Partition coefficient	Not applicable.
<u>Mobility in soil</u>	
Mobility	No data available.
Adsorption/desorption coefficient	Not available.
<u>Other adverse effects</u>	
Other adverse effects	None known.

13. Disposal considerations

Waste treatment methods

General information	The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.
Disposal methods	Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

14. Transport information

General	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).
Road transport notes	Not regulated.
Rail transport notes	Not regulated.
Sea transport notes	Not regulated.
Air transport notes	Not regulated.
DOT transport notes	Not regulated.
<u>UN Number</u>	
UN No. (International)	Not applicable.
UN No. (DOT)	Not applicable.
<u>UN proper shipping name</u>	
Proper shipping name (International)	Not applicable.
Proper shipping name (DOT)	Not applicable.
<u>Transport hazard class(es)</u>	

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Transport Labels (International) No transport warning sign required.

DOT transport labels
No transport warning sign required.

Packing group

Packing group (International) Not applicable.

DOT packing group Not applicable.

Environmental hazards

Environmentally Hazardous Substance

No.

Special precautions for user

Not applicable.

DOT reportable quantity Not applicable.

DOT TIH Zone Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

None of the ingredients are listed or exempt.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

None of the ingredients are listed or exempt.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed or exempt.

SARA 313 Emission Reporting

Present.

CAA Accidental Release Prevention

None of the ingredients are listed or exempt.

FDA - Essential Chemical

None of the ingredients are listed or exempt.

FDA - Precursor Chemical

None of the ingredients are listed or exempt.

SARA (311/312) Hazard Categories

None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals

None of the ingredients are listed or exempt.

US State Regulations

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California Proposition 65 Carcinogens and Reproductive Toxins

This product can expose you to 2-Pyrrolidinone, 1-methyl, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 Labelling



WARNING

This product can expose you to 2-Pyrrolidinone, 1-methyl, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Air Toxics "Hot Spots" (A-I)

None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-II)

None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances

None of the ingredients are listed or exempt.

Massachusetts "Right To Know" List

None of the ingredients are listed or exempt.

Label Prop 65 data

Minnesota "Right To Know" List

None of the ingredients are listed or exempt.

Pennsylvania "Right To Know" List

Present.

New Jersey "Right To Know" List

Present.

Inventories

EU - EINECS/ELINCS

All the ingredients are listed or exempt.

Canada - DSL/NDSL

All the ingredients are listed or exempt.

US - TSCA

None of the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification

None of the ingredients are listed or exempt.

Australia - AICS

Some of the ingredients are listed or exempt.

Japan - ENCS

All the ingredients are listed or exempt.

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Korea - KECI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines - PICCS

Some of the ingredients are listed or exempt.

New Zealand - NZIOC

All the ingredients are listed or exempt.

16. Other information

Training advice	Only trained personnel should use this material.
Revision date	7/1/2022
Revision	6
Supersedes date	6/22/2022
SDS No.	5975
Hazard statements in full	H360 May damage fertility or the unborn child. USH01 May form combustible dust concentrations in air.

End of SDS

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.