

SAFETY DATA SHEET

according to Regulation (EU) No. 1907/2006

LUNA PTSI

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

1.1. Product identifier

Index-No	615-012-00-7
CAS-No.	4083-64-1
EC-No.	223-810-8
Product code	110152365, 110160438, 110262540

Synonyms	p-Toluenesulfonyl isocyanate
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1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Preparation	Polymer additive Polymer Industry.
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1.3. Details of the supplier of the safety data sheet

Company/Undertaking Identification	DKSH Great Britain Limited Wellington House 60-68 Wimbledon Hill Road LONDON SW19 7PA United Kingdom Tel: +44 (0)20 8879 5500
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1.4. Emergency telephone number	+44(0) 1235 239670 (24/24 - 7/7)
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Revision Date	31.05.2012
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Version	CLP1.2 (Previous versions: CLP1.1, 30/05/2011)
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2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 (GHS/CLP)	Skin corrosion/irritation, Cat. 2, H315 Serious eye damage/eye irritation, Cat. 2, H319 Specific target organ toxicity (single exposure, inhalation), Cat. 3, H335 Respiratory Sensitisation, Cat. 1, H334 Reacts violently with water.
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The product is classified and labelled according to Regulation (EC) No. 1272/2008 (CLP).

Classification according to EU Directives 67/548/EEC or 1999/45/EC	R14 R42 Xi; R36/37/38
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Additional information	For the full text of the phrases mentioned in this Section, see Section 16.
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2.2. Label elements



Signal Word	Danger
Hazard Statements	H315: Causes skin irritation. H319: Causes serious eye irritation. H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335: May cause respiratory irritation.
Precautionary statements	P261: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P280c: Wear protective gloves/ eye protection/ face protection. P285: In case of inadequate ventilation wear respiratory protection. P302+P352: IF ON SKIN: Wash with plenty of soap and water. P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Additional advice	Reacts violently with water.
GHS product identifier	4-Isocyanatosulphonyltoluene; Tosyl isocyanate, CAS-No. 4083-64-1, EC-No. 223-810-8

2.3. Other hazards

No information available.

3. Composition/information on ingredients
3.1. Substances

Components		CLP Classification	DSD/DPD Classification	CAS	REACH No.
4-Isocyanatosulphonyltoluene; Tosyl isocyanate	100%	Eye Irrit. 2 H319, STOT SE 3 H335, Skin Irrit. 2 H315, Resp. Sens. 1 H334, EUH014 [CEy2: C ≥ 5 % SSEIn3: C ≥ 5 % Csk2: C ≥ 5 %]	Xn; R-14-36/37/38-42 [C ≥ 5 % \ Xn; R-36/37/38-42 1 % ≤ C < 5 % \ Xn; R-42]	4083-64-1	

For the full text of the phrases mentioned in this Section, see Section 16.

Hazardous impurities

None known.

4. First aid measures
4.1. Description of first aid measures
Inhalation

 Move to fresh air in case of accidental inhalation of vapours or decomposition products.
Call a physician or Poison Control Center immediately.

Skin contact

 Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Consult a physician for severe cases.

Eye contact

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ingestion

 Rinse mouth.
If swallowed, seek medical advice immediately and show this container or label.

4.2. Most important symptoms and effects, both acute and delayed

 Irritating to eyes, respiratory system and skin.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Carbon dioxide (CO₂).
Foam.
Dry powder.

Extinguishing media which must not be used for safety reasons Water.

5.2. Special hazards arising from the substance or mixture Reacts violently with water.
In the event of fire NO_x, HCN, SO_x may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear self-contained breathing apparatus and protective suit.

Specific methods Reacts violently with water.
Standard procedure for chemical fires.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel Use personal protective equipment.
Avoid contact with skin and eyes.
Do not breathe vapours/dust.
Keep people away from and upwind of spill/leak.
Remove all sources of ignition.

Advice for emergency responders Ensure adequate ventilation.
Use personal protective equipment.
Avoid contact with skin and eyes.
Avoid breathing dust.
Remove all sources of ignition.

6.2. Environmental precautions Do not allow material to contaminate ground water system.

6.3. Methods and material for containment and cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable and closed containers for disposal.

6.4. Reference to other sections See chapter 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling	Practice care and caution to avoid skin contact and inhalation of vapours or mists if generated. Keep away from heat and sources of ignition.
7.2. Conditions for safe storage, including any incompatibilities	Keep containers tightly closed in a dry, cool and well-ventilated place. Store accessible to authorized persons only or under lock and key. Storage under inert gas (nitrogen).
7.3. Specific end use(s)	No information available.

8. Exposure controls/personal protection

8.1. Control parameters

EU	None.
Exposure limit(s)	No data is available on the product itself.

8.2. Exposure controls

Occupational exposure controls	Handle in accordance with good industrial hygiene and safety practice.
Personal protection equipment	
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Respirator with combination filter for vapour/particulate.
Hand protection	The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Gloves made of Butyl. Break through time: > 8 h.
Eye protection	Safety glasses with side-shields conforming to EN 166.
Skin and body protection	Protective suit. Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Thermal hazards	None known.
Environmental exposure controls	Do not disperse waste in the environment.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form	Liquid.
Colour	Colourless.
Odour	No information available.
Odour Threshold	No data available.
pH:	no data available
Melting point/range:	-2°C
Boiling point/range:	144 °C
Flash point:	> 230 °C
Evaporation Rate:	No data available.
Flammability:	No data available.
Explosion limits:	No data available.
Vapour pressure:	1 mmHg (100 °C)
Vapor density:	No data available.
Relative density:	No data available.
Water solubility:	1318 mg/l (25°C)
Partition coefficient (n-octanol/water):	Log Pow: 0.82
Autoignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.
Combustion/explosion hazards:	No data available.
Oxidizing properties:	None

9.2. Other information

General Product Characteristics	Formula: C ₈ H ₇ NO ₃ S. Molecular Weight: 197.21 g/mol.
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10. Stability and reactivity

10.1. Reactivity	Reacts violently with water.
10.2. Chemical stability	Stable under recommended storage conditions.
10.3. Possibility of hazardous reactions	Reacts violently with water.
10.4. Conditions to avoid	Avoid humidity and water. Take precautionary measures against static discharges. Exothermic reaction with amines and alcohols.
10.5. Incompatible materials	Reacts violently with water.

Incompatible with strong bases and oxidizing agents.

Acids.

Amines.

Alcohols.

Sulfides.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide (CO₂). Sulphur oxides.
Hydrogen cyanide (hydrocyanic acid). Nitrogen oxides (NO_x).

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity

This product should NOT be considered: Harmful by inhalation and if swallowed.

On basis of published data.

LD50/oral/rat = 2600 mg/kg.

[HPVIS report - VanDeMark Inc., Material Data Safety Sheet, p-Toluenesulfonyl Isocyanate, 2002] (unpublished report)

LC50/inhalation/rat >= 640 ppm 1h. [International Journal of Toxicology, 2000] (unpublished report)

See actual entry in RTECS for complete information.

Skin corrosion/irritation

According to Annex VI of 1272/2008 EC regulation: Causes skin irritation. (published data)

Tests have been performed on rabbits. Slight skin irritation.

[International Journal of Toxicology, 2000] (unpublished report)

See actual entry in RTECS for complete information.

Serious eye damage/eye irritation

According to Annex VI of 1272/2008 EC regulation: Causes serious eye irritation. (published data)

Tests have been performed on rabbits. Moderate eye irritation.

[International Journal of Toxicology, 2000] (unpublished report)

See actual entry in RTECS for complete information.

Respiratory / Skin Sensitisation

According to Annex VI of 1272/2008 EC regulation: May cause allergy or asthma symptoms or breathing difficulties if inhaled. (published data)

Carcinogenicity

No data available.

Germ cell mutagenicity	<p>By analogy with PTSA (CAS 70-55-3), the substance is not considered as mutagenic. On basis of published data.</p> <p>No data is available on the product itself.</p> <p>PTSA (CAS 70-55-3) Mutagenicity (Chromosomal aberration test, in vitro): negative with or without metabolic activation. Mutagenicity (Reverse mutation assay on bacteria "Ames test", in vitro): negative with or without metabolic activation. Reference(s): [OECD SIDS, 1994] (published data)</p>
Reproductive toxicity	No data available.
Specific target organ toxicity (single exposure)	According to Annex VI of 1272/2008 EC regulation: May cause respiratory irritation. (published data)
Specific target organ toxicity (repeated exposure)	No data available.
Aspiration hazard	No data available.
Human experience	No information available.

12. Ecological information

12.1. Toxicity	No data available.
12.2. Persistence and degradability	No data available.
12.3. Bioaccumulative potential	No data available.
12.4. Mobility in soil	No data available.
12.5. Results of PBT and vPvB assessment	<p>This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).</p> <p>This substance is not considered to be very persistent nor very bioaccumulating (vPvB).</p>
12.6. Other adverse effects	No information available.

13. Disposal considerations

13.1. Waste treatment methods

Waste from residues / unused products	Waste codes should be assigned by the user based on the application for which the product was used. Can be landfilled or incinerated, when in compliance with local regulations.
Contaminated packaging	Dispose of as unused product.

14. Transport information

ADR/RID	Proper shipping name ISOCYANATE, TOXIC, N.O.S. (4-Isocyanatosulphonyltoluene; Tosyl isocyanate) UN No 2206. Class 6.1. Packing group II. ADR/RID-Labels 6.1. Classification code T1. Risk No. 60. Limited quantity 100 ml. Tunnel code D/E
IMO	Proper shipping name Isocyanates, toxic, n.o.s. (4-Isocyanatosulphonyltoluene; Tosyl isocyanate) UN No 2206. Class 6.1. Packing group II. ADR/RID-Labels 6.1. Limited quantity 100 ml. EmS F-A, S-A. Marine Pollutant no
ICAO	Proper shipping name Isocyanates, toxic, n.o.s. (4-Isocyanatosulphonyltoluene; Tosyl isocyanate) UN No 2206. Class 6.1. Packing group II. Packing instruction (passenger aircraft): 654 (5 L). Packing instruction (LQ): Y641 (1 L). Packing instruction (cargo aircraft): 662 (60 L).

Inland navigation ADN	Proper shipping name ISOCYANATES, TOXIC, N.O.S. (4-Isocyanatosulphonyltoluene; Tosyl isocyanate) UN No 2206. Class 6.1. Packing group II. ADN danger 6.1+S.
Further Information	None.

15. Regulatory information

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

Regulatory Information	The product is classified and labelled according to Regulation (EC) No. 1272/2008 (CLP). According to Annex VI of 1272/2008 EC regulation EC Label This substance is listed in the following inventories: TSCA, AICS, DSL, IECSC, EINECS, ENCS, ISHL, KECl, NZIoC, PICCS
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15.2. Chemical safety assessment	A Chemical Safety Assessment is not required for this substance.
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16. Other information

Revision Note	Safety datasheet sections which have been updated: 2,4,5,6,7,8,11,12,15,16.
Key or legend to abbreviations and acronyms	AICS: Inventory of Chemical Substances (Australia) DSL: Domestic Substances List (Canada) EINECS: European Inventory of Existing Commercial Chemical Substances (EU) ENCS: Inventory of Existing & New Chemical Substances (Japan) IECSC: Inventory of Existing Chemical Substances (China) ISHL: Industrial Safety & Health Law Inventory (Japan) KECI: Existing Chemicals Inventory (Korea) NZIoC: New Zealand Inventory of Chemicals (New Zealand) PICCS: Inventory of Chemicals and Chemical Substances (Philippines) TSCA: Toxic Substances Control Act - Chemical Substances Inventory (USA) CLP: Classification according to Regulation (EC) No. 1272/2008 (GHS/CLP) DSD/DPD: Classification according to EU Directives 67/548/EEC or 1999/45/EC
Key literature references and sources for data	Supplier's data. Information taken from reference works and the literature. Information derived from practical experience. Refer to the respective sections.
Classification procedure	Classification of the substance according to the European Directive 67/548/EC and to the European Regulation 1272/2008/EC. According to Annex VI of 1272/2008 EC regulation
Full text of phrases referred to under sections 2 and 3	EUH014: Reacts violently with water. H315: Causes skin irritation. H319: Causes serious eye irritation. H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335: May cause respiratory irritation. R14: Reacts violently with water. R36/37/38: Irritating to eyes, respiratory system and skin. R42: May cause sensitisation by inhalation.
Training advice	No information available.
Further information	No information available.
Instructions for use	None.

Disclaimer

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, transportation, disposal and release.

It 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.

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.