



SAFETY DATA SHEET

SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Identifier

Material Name : Thanecure T9, Thanecure T9 UG, Thanecure T9 SF (Superfine)
Product Description : Mixture
Substance Registration Number(s) : The components are either pre-registered or not subject to REACH.

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Identified Use(s) : Used as an accelerator in the curing of elastomers; rubber vulcanization accelerator
Use(s) Advised Against : For industrial use only

1.3 Details of the Supplier of the Safety Data Sheet : TSE Industries, Inc.
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SECTION 2: Hazards Identification

2.1 Classification of the Substance or Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP] : None needed according to classification criteria.

2.2 Label Elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard Symbols : None needed according to classification criteria
Signal Word : None needed according to classification criteria
Hazard Statements : None needed according to classification criteria
Precautionary Statements
Prevention : None needed according to classification criteria
Response : None needed according to classification criteria
Storage : None needed according to classification criteria
Disposal : P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other Hazards

May cause sensitization by inhalation and skin contact. 2,4-Toluene diisocyanate: even small amounts may cause sensitization.

SECTION 3: Composition/Information on Ingredients

CASE EC No Registration No	Component Name Synonyms	1272/2008 (CLP)	%
26747-90-0 247-953-0 ----	1,3-Diazetidine-2,4-dione, 1,3-bis(3-isocyanatomethylphenyl)-	----	>98.9
67762-90-7 ----	Dimethyl siloxane polymer with silica	----	0.7 – 1.0
584-84-9 209-544-5 ----	Toluene-2,4-diisocyanate	Acute Tox. (Vapour) 2 – H330 Acute Tox. (Gas) 2 – H330 Acute Tox. (Dust/Mist) 2 – H330 Skin Corr. 2 – H315 Eye Dam. 2 – H319 Resp. Sens. 1 – H334 Skin Sens. 1 – H317 Carc. 2 – H351 STOT SE 3 – H335 Aquatic Chronic 3 – H412 Note(s): C	<0.1

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Isocyanates.

Note(s) C: Some organic substances may be marketed either in a specific isometric form or as a mixture of several isomers.

SECTION 4: First Aid Measures**4.1 Description of First Aid Measures**

- Inhalation** : IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell. Give artificial respiration if not breathing.
- Skin Contact** : IF ON SKIN: Wash with plenty of soap and water. Remove and wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
- Eye Contact** : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops or persists.
- Ingestion** : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Get medical advice/attention.

4.2 Most Important Symptoms/Effects

- Acute** : Dust may cause mechanical irritation of the respiratory tract, eyes, skin.
- Delayed** : No information on significant adverse effects.

4.3 Indication of Immediate Medical Attention and Special Treatment

Treat symptomatically and supportively.

- Notes to Physicians** : Inhalation: Effects may be delayed. Keep affected person under observation.

SECTION 5: Firefighting Measures**5.1 Extinguishing Media**

- Suitable Extinguishing Media** : Use water spray, fog, dry chemical, alcohol foam or carbon dioxide.
- Unsuitable Extinguishing Media** : Do not use high-pressure water streams.

5.2 Special Hazards Arising from the Substance or Mixture

Combustible dust possible: Dust can form an explosive mixture with air.

Combustion : Toluene diisocyanate vapors, carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen cyanide

5.3 Advice for Firefighters

Stable under normal conditions of use.

Fire Fighting Measures : Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Keep unnecessary people away, isolate hazard area and deny entry. Do not scatter spilled material with high-pressure water streams. Dike for later disposal.

Protective Equipment and Precautions for Firefighters : Wear full protective firefighting gear including self-contained breathing apparatus (SCBA) for protection against possible exposure.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Keep unnecessary people away, isolate hazard area and deny entry. Avoid breathing dust. Eliminate all sources of ignition. Do not touch or walk through spilled material. Wear suitable protective clothing and eye/face protection. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Non-sparking tools should be used when working with dust.

6.2 Environmental Precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Contact authorities in the event of pollution of soil and aquatic environment or discharge into drains.

6.3 Methods and Materials for Containment and Cleaning Up

Move undamaged containers from immediate hazard area if it can be done safely. Stay upwind and away from spill. Prevent entry into sewers, drains, ditches, underground or confined spaces and waterways. Avoid creating dusty conditions and prevent wind dispersal. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose in accordance with all applicable regulations.

6.4 Reference to Other Sections

Safe handling: see Section 7. Personal Protection Equipment (PPE): see Section 8. Disposal: see Section 13.

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

Use appropriate personal protective equipment. Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes, on skin, or on clothing. Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored, and processed. Do not ingest. Avoid breathing dust. Wash hands and face before breaks and immediately after handling of the product. Prevent accumulation of dusts. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against static discharge. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Clean up contamination/spills as soon as they occur. Decontaminate personnel, spill area and all tools and equipment. Do not reuse containers.

7.2 Conditions for Safe Storage, including any incompatibilities

None needed according to classification criteria. Store in accordance with local/regional/ national/international regulations. Store in original container. Protect against direct sunlight. Keep containers closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible materials (see Section 10). Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Incompatible Materials

Amines, Alcohols, Surfactants

SECTION 8: Exposure Controls/Personal Protection**8.1 Control Parameters****Component Exposure Limits**

Toluene-2,4-diisocyanate	584-84-9
Austria:	0.005 ppm TWA {TMW}; 0.035 mg/m ³ TWA [TMW]
	0.02 ppm STEL [KZW] 4 X 15 min; 0.14 mg/m ³ STEL [KZW] 4 X 15 min
	Skin sensitizer
Belgium:	0.005 ppm TWA; 0.037 mg/m ³ TWA
	0.02 ppm STEL; 0.14 mg/m ³ STEL
Denmark:	0.005 ppm TWA; 0.035 mg/m ³ TWA
Germany (TRGS):	0.005 ppm TWA AGW ceiling factor 4, exposure factor 1; 0.035 mg/m ³ TWA AGW ceiling factor 4, exposure factor 1
Germany (DFG):	Respiratory and skin sensitizer
Greece:	0.01 ppm TWA; 0.07 mg/m ³ TWA
	0.02 ppm STEL; 0.14 mg/m ³ STEL
Ireland:	0.001 mg/m ³ TWA as NCO inhalable fraction and vapor; 0.02 mg/m ³ TWA (regulated under 4-Methyl-m-phenylene diisocyanate) as NCO
	0.07 ppm STEL (regulated under 4-Methyl-m-phenylene diisocyanate) as NCO; 0.003 mg/m ³ STEL as NCO inhalable fraction and vapor
Portugal:	0.005 ppm TWA [VLE-MP]
	0.02 ppm STEL [VLE-CD]
	Sensitizer
Spain:	0.005 ppm TWA [VLA-ED]; 0.036 mg/m ³ TWA [VLA-ED]
	0.02 ppm STEL [VLA-EC]; 0.14 mg/m ³ STEL [VLA-EC]
	Sensitizer
Sweden:	0.002 ppm LLV; 0.014 mg/m ³ LLV
	0.005 ppm Binding STLV (reference period for short time exposure is 5 minutes); 0.04 mg/m ³ Binding STLV (reference period for short time exposure is 5 minutes)
	Sensitizer

EU – Occupational Exposure (98/24/EC) – Binding Biological Limit Values and Health Surveillance Measures

There are no biological limit values for any of this product's components.

Derived No Effect Levels (DNELs)

No DNELs available.

Predicted No Effect Concentrations (PNECs)

No PNECs available.

8.2 Exposure Controls

Engineering Controls	:	Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits; If dust is generated in handling, use appropriate local exhaust ventilation to keep exposures below the regulated limits.
Eye/Face Protection	:	Use eye protection according to EN 166, designed to protect against dusts.
Skin Protection	:	Wear appropriate chemical resistant clothing (EN ISO 6529).
Respiratory Protection	:	Particle filter device (DIN EN 143).
Glove Recommendations	:	Wear suitable gloves tested to EN374.
Environmental Exposure Controls	:	Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

SECTION 9: Physical and Chemical Properties
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9.1 Information on Basic Physical and Chemical PropertiesAppearance

Physical State	:	Solid
Color	:	White
Odor	:	Aromatic
Odor Threshold	:	Not available
pH	:	Not available
Melting Point	:	>145°C
Boiling Point	:	Not available
Boiling Point Range	:	Not available
Freezing Point	:	Not available
Evaporation Rate	:	Not available
Flammability (solid, gas)	:	Not available
Auto-ignition Temperature	:	500°C
Flash Point	:	Not available
Lower Explosive Limit	:	Not available
Upper Explosive Limit	:	Not available
Decomposition Temperature	:	Not available
Vapor Pressure	:	Not available
Vapor Density (air=1)	:	Not available
Specific Gravity (water=1)	:	1.48
Relative Density	:	Not available
Water Solubility	:	Not available
Partition Coefficient: n-octano/water	:	Not available
Viscosity	:	Not available
Solubility (Other)	:	Not available
Density	:	Not available
Physical Form	:	Powder
Molecular Weight	:	Not available

9.2 Other Information : No additional information

SECTION 10: Stability and Reactivity

- 10.1 Reactivity** : No reactivity hazard is expected.
- 10.2 Chemical Stability** : Reacts slowly with air and moisture to form carbon dioxide.
- 10.3 Possibility of Hazardous Reactions** : Under normal conditions of storage and use, hazardous polymerization will not occur.
- 10.4 Conditions to Avoid** : Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.
- 10.5 Incompatible Materials** : Amines, Alcohols, Surfactants
- 10.6 Hazardous Decomposition Products** : Above 100°C this product may decompose: 2,4-Toluene diisocyanate.

SECTION 11: Toxicological Information**11.1 Information on Toxicological Effects****Component Analysis – LD50/LC50**

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Toxicity Data for Toluene-2,4-diisocyanate (584-84-9)

Oral LD50 Rat 5800 mg/kg

Inhalation LC50 Rat 14 ppm 4 h

Product Toxicity Data – Acute Toxicity Estimate : Inhalation – Dust and Mist >5 mg/L
Oral >2000 mg/kg

Irritation/Corrosivity Data : Dust may cause mechanical irritation of the respiratory tract, eyes, skin.

Respiratory Sensitization : May cause sensitization by inhalation. 2,4-Toluene diisocyanate: respiratory sensitizer.

Dermal Sensitization : May cause sensitization by skin contact. 2,4-Toluene diisocyanate: skin sensitizer.

Germ Cell Mutagenicity : No data available

Component Carcinogenicity

Toluene-2,4-diisocyanate	584-84-9
IARC:	Monograph 71 [1999] (Group 2B (possibly carcinogenic to humans))
DFG:	Category 3A (could be carcinogenic for man)

Reproductive Toxicity : No data available

Specific Target Organ Toxicity - Single Exposure : None identified

Specific Target Organ Toxicity - Repeated Exposure : None identified

Aspiration Hazard : Not applicable

SECTION 12: Ecological Information

- 12.1 Toxicity** : No information available for the product.
- Component Analysis – Aquatic Toxicity** : No LOEL ecotoxicity data are available for this product's components.
- 12.2 Persistence and Degradability** : No information available for the product.
- 12.3 Bioaccumulative Potential** : No information available for the product.
- 12.4 Mobility in Soil** : No information available for the product.
- Bioconcentration Factor (BCF)** : No information available for the product.

12.5 Results of PBT and vPvB Assessment : No components of this material are listed.

12.6 Other Adverse Effects : No information available for the product.

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Waste codes/waste designations according to EWC/AVV. EWC-code: 07 02 17.

Since emptied containers retain material residue, follow safe handling/label warnings even after container is emptied. Dispose in accordance with all applicable regulations.

Prevent entry into sewers, drains, ditches, underground or confined spaces and waterways.

Dispose in accordance with all applicable federal, state/regional and local laws and regulations.

SECTION 14: Transport Information

Component Marine Pollutants (IMDG)

Not regulated as dangerous goods.

		ADR	RID	ICAO	IATA	AND	IMDG
14.1	UN Number	--	--	--	--	--	--
14.2	UN Proper Shipping Name	--	--	--	--	--	--
14.3	Transport Hazard Class(es)	--	--	--	--	--	--
14.4	Packing Group	--	--	--	--	--	--
14.5	Environmental Hazards	--	--	--	--	--	--
14.6	Special Precautions for User	--	--	--	--	--	--
14.7	Transport in Bulk According to Annex II or MARPOL 73/78 and the IBC Code	--	--	--	--	--	--
14.8	Additional Information	--	--	--	--	--	--

International Bulk Chemical Code : This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

SECTION 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

EU – REACH (1907/2006) – Annex XIV List of Substances Subject to Authorization : No components of this material are listed.

EU – REACH (1907/2006) – Article 59(1) Candidate List of Substances Subject to Authorization : No components of this material are listed.

EU – REACH (1907/2006) – Annex XVII Restrictions of Certain Dangerous Substances, Mixtures and Articles : No components of this material are listed.

EU – Substances Depleting the Ozone layer (1005/2009) : No components of this material are listed.

EU – Persistent Organic Pollutants (850/2004)	:	No components of this material are listed.
EU – Export and Import Restrictions (689/2008) – Chemicals and Articles Subject to Export Ban	:	No components of this material are listed.
EU – Seveso III Directive (2012/18/EU) – Qualifying Quantities of Dangerous Substances	:	Toluene-2,4-diisocyanate 584-84-9 Lower-Tier Requirements 10 tonne Higher-Tier Requirements 100 tonne
EU – Plant Protection Products (1107/2009/EC)	:	No components of this material are listed.
EU – Biocides (528/2012/EU)	:	No components of this material are listed.
EU – Water Framework Directive (2000/60/EC)	:	No components of this material are listed.
EU – Limitation of Emissions of Volatile Organic Compounds Due to the Use of Organic Solvents in Certain Activities and Installations (1999/13/EC)	:	No components of this material are listed.
EU – Detergent Regulation (648/2004/EC)	:	No components of this material are listed.

Germany Regulations

Germany Water Classification – Product	:	Hazard Class 2 – hazard to waters *Self-classification
Germany Water Classification – Component Dimethyl siloxane polymer with silica (67762-90-7)	:	ID Number 849, not considered hazardous to water
Germany Water Classification – Component Toluene-2,4-diisocyanate (584-84-9)	:	ID Number 511, Hazard Class 2 – hazard to waters

Denmark Regulations

Toluene-2,4-diisocyanate	584-84-9
	Hardeners; Fillers; Raw Materials
	Properties of concern with regard to the List of hazardous substances

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out for the substance/mixture.

Component Analysis – Inventory

1,3-Diazetidine-2,4-dione,1,3-bis(3-isocyanatomethylphenyl)- (26747-90-0)														
US	CA	EU	AU	PH	JP-ENCS	JP-ISHL	KR KECI Annex 1	KR KECI Annex 2	KR – REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No
Dimethyl siloxane polymer with silica (67762-90-7)														
US	CA	EU	AU	PH	JP-ENCS	JP-ISHL	KR KECI Annex 1	KR KECI Annex 2	KR – REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

Toluene-2,4-diisocyanate (584-84-9)														
US	CA	EU	AU	PH	JP-ENCS	JP-ISHL	KR KECI Annex 1	KR KECI Annex 2	KR – REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes

SECTION 16: Other Information

16.1 Indication of Changes : Revision: 27/07/2016

16.2 Key / Legend

ACGIH	: American Conference of Governmental Industrial Hygienists
ADR	: European Road Transport
AU	: Australia
BOD	: Biochemical Oxygen Demand
C	: Celsius
CA	: Canada
CA/MA/MN/NJ/PA	: California/Massachusetts/Minnesota/New Jersey/Pennsylvania*
CAS	: Chemical Abstracts Service
CFR	: Code of Federal Regulations (US)
CERCLA	: Comprehensive Environmental Response, Compensation, and Liability Act
CLP	: Classification, Labeling and Packaging
CN	: China
CPR	: Controlled Products Regulations
DFG	: Deutsche Forschungsgemeinschaft
DOT	: Department of Transportation
DSD	: Dangerous Substance Directive
DSL	: Domestic Substances List
EC	: European Commission
EEC	: European Economic Community
EIN	: European Inventory of (Existing Commercial Chemical Substances)
EINECS	: European Inventory of Existing Commercial Chemical Substances
ENCS	: Japan Existing and New Chemical Substance Inventory
EPA	: Environmental Protection Agency
EU	: European Union
F	: Fahrenheit
IARC	: International Agency for Research on Cancer
IATA	: International Air Transport Association
ICAO	: International Civil Aviation Organization
IDL	: Ingredient Disclosure List
IDLH	: Immediately Dangerous to Life and Health
IMDG	: International Maritime Dangerous Goods
ISHL	: Japan Industrial Safety and Health Law
IUCLID	: International Uniform Chemical Information Database
JP	: Japan
Kow	: Octanol/water partition coefficient
KECI	: Korea Existing Chemicals Inventory

KECL	:	Korea Existing Chemicals List
KR	:	Korea
LD50/LC50	:	Lethal Dose/Lethal Concentration
LEL	:	Lower Explosive Limit
LLV	:	Level Limit Value
LOLI	:	List of Lists™ - Chem ADVISOR's Regulatory Database
MAK	:	Maximum Concentration Value in the Workplace
MEL	:	Maximum Exposure Limits
MX	:	Mexico
NDSL	:	Non-Domestic Substance List (Canada)
NFPA	:	National Fire Protection Agency
NIOSH	:	National Institute for Occupational Safety and Health
NJTSR	:	New Jersey Trade Secret Registry
NTP	:	National Toxicology Program
NZ	:	New Zealand
OSHA	:	Occupational Safety and Health Administration
PEL	:	Permissible Exposure Limit
PH	:	Philippines
RCRA	:	Resource Conservation and Recovery Act
REACH	:	Registration, Evaluation, Authorization, and restriction of Chemicals
RID	:	European Rail Transport
SARA	:	Superfund Amendments and Reauthorization Act
STEL	:	Short-term Exposure Limit
TCCA	:	Korea Toxic Chemicals Control Act
TDG	:	Transportation of Dangerous Goods
TLV	:	Threshold Limit Value
TSCA	:	Toxic Substances Control Act
TW	:	Taiwan
TWA	:	Time Weighted Average
UEL	:	Upper Explosive Limit
UN/NA	:	United Nations/North American
US	:	United States
VLE	:	Exposure Limit Value (Mexico)
WHMIS	:	Workplace Hazardous Materials Information System (Canada)

16.3 Key Literature References and Sources for Data : Available upon request.

16.4 Methods Used for Classification of Mixture According to Regulation (EC) No. 1272/2008 : Available upon request.

16.5 Relevant H- and EUH- phases (number and full text)

H412	:	Harmful to aquatic life with long lasting effects
H330	:	Fatal if inhaled
H351	:	Suspected of causing cancer
H319	:	Causes serious eye irritation
H334	:	May cause allergic or asthmatic symptoms or breathing difficulties if inhaled
H315	:	Causes skin irritation
H317	:	May cause allergic skin reaction

H335 : May cause respiratory irritation

Note(s) C: Some organic substances may be marketed either in a specific isometric form or as a mixture of several isomers.

16.6 Training Advice : Read the Safety Data Sheet before handling product.

16.7 Further Information

Disclaimer:

TSE Industries, Inc. makes no representations or warranties with respect to the information in this Safety Data Sheet. The information is, however, correct and up to date to the best of TSE's knowledge. This list of information is not intended to be all inclusive. Actual conditions of use and handling may require considerations of information other than or in addition to that, which is provided herein. TSE makes no representations or warranties that the material meets the requirements and/or regulations of any country other than the United States. It is the end user's responsibility to determine whether this material meets their intended purpose and whether it complies with the laws and applicable regulations of their particular country.