THERMA-SHIELD™ 2002

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Issue Date: 2/11/2024 Revised: 9/21/2024

SECTION 1: Identification

1.1. Identification

Product form	:	Mixture
Product name	:	THERMA-SHIELD™ 2002
Other means of identification	:	Polyurethane Resin B-side

1.2. Recommended use and restrictions on use

Use of the substance/mixture	:	B Component for Spray-Applied Polyurethane Foam

1.3. Supplier

IPS LLC
4115 Capital Dr.
New Albany, Indiana 47150
T: 812.776.6251

1.4. Emergency telephone number

Emergency number	:	Chemtrec (800) 424-9300 [24 HOURS]

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Acute toxicity (oral) Category 4	Harmful if swallowed
Serious eye damage/eye irritation Category 1	Causes serious eye damage
Skin sensitization, Category 1	May cause an allergic skin reaction
Specific target organ toxicity (repeated exposure) Category 2	May cause damage to organs (kidneys) through prolonged or repeated exposure (oral)

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger

Hazard statements (GHS US) :
Harmful if swallowed
May cause an allergic skin reaction
Causes serious eye damage
May cause damage to organs (kidneys) through prolonged or repeated exposure (oral)

Precautionary statements (GHS US) :
Do not breathe mist, spray, vapors.
Avoid breathing mist, spray, vapors.
Wash hands, forearms and face thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective clothing, eye protection, face protection.
If swallowed: Call a POISON CENTER, a doctor if you feel unwell.
If on skin: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER, a doctor.
Get medical advice/attention if you feel unwell.
Rinse mouth.

If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
Dispose of contents/container to an approved waste disposal plant.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
TCPP	CAS-No.: 13674-84-5	15 – 18
trans-1-Chloro-3,3,3-trifluoropropene	CAS-No.: 102687-65-0	6-11
Oxirane, 2-methyl-, polymer with oxirane, ether with 2,6-bis[[bis-(2-hydroxyethyl)amino]methyl]-4-br	CAS-No.: 940912-28-7	5 – 10
2,2' -oxybisethanol, diethylene glycol	CAS-No.: 111-46-6	2 – 6
ethanediol, ethylene glycol	CAS-No.: 107-21-1	1 – 3
1,2-dimethylimidazole	CAS-No.: 1739-84-0	0 – 3
Bis(dodecylthio)dimethylstannane	CAS-No.: 51287-84-4	0.1 – 0.3

The specific chemical\ component identities and/or the exact component percentages of this material may be withheld as trade secrets.
This information is made available to health professionals, employees, and designated representatives in accordance with the applicable provisions of 29 CFR 1910.1200 (I)(1). Trace ingredients (if any) are present in < 1% concentration, (< 0.1% for potential carcinogens, mutagen, and reproductive toxicant, respiratory tract and skin sensitizers in addition to oral/ inhalation acute toxicant in category 1 and 2). None of the trace ingredients contribute significant additional hazards at the concentrations that may be present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalents.

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center/doctor/physician if you feel unwell.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion : Rinse mouth. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
Symptoms/effects after skin contact : May cause an allergic skin reaction.
Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : None under normal conditions.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : No fire hazard.
Explosion hazard : No direct explosion hazard.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Ventilate spillage area. Do not breathe mist, spray, vapors. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.
Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling : Ensure good ventilation of the work station. Do not breathe mist, spray, vapors. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.
Storage conditions : Keep cool. Protect from sunlight.

Maximum storage period	:	6 months
Storage temperature	:	50 – 80 °F (10-27 °C)
Packaging materials	:	Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

THERMA-SHIELD™ 2002
No additional information available

2,2' -oxybisethanol, diethylene glycol (111-46-6)
No additional information available

Oxirane, 2-methyl-, polymer with oxirane, ether with 2,6-bis[[bis-(2-hydroxyethyl)amino]methyl]-4-br (940912-28-7)
No additional information available

ethanediol, ethylene glycol (107-21-1)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Ethylene glycol
ACGIH OEL TWA	25 ppm (V - Vapor fraction)
ACGIH OEL STEL	10 mg/m³ (I - Inhalable particulate matter, H - Aerosol only)
	50 ppm (V - Vapor fraction)
Remark (ACGIH)	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2023

TCPP (13674-84-5)
No additional information available

1,2-dimethylimidazole (1739-84-0)
No additional information available

Bis(dodecylthio)dimethylstannane (51287-84-4)
No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	:	Ensure good ventilation of the work station.
Environmental exposure controls	:	Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Clear. hazy liquid.
Color	:	light brown
Odor	:	ether-like
Odor threshold	:	No data available
pH	:	8.8
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	> 90 °F (32 °C)
Flash point	:	> 200 °F (93 °C)
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability	:	Not applicable.
Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	No data available
Density	:	1.22 g/ml
Solubility	:	Moderately soluble in water.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	1000 ± 100 cP
Explosion limits	:	No data available
Explosive properties	:	Not explosive.
Oxidizing properties	:	No data available.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

No additional information available

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

THERMA-SHIELD™ 2002	
ATE US (oral)	1660.027 mg/kg body weight

2,2' -oxybisethanol, diethylene glycol (111-46-6)	
ATE US (oral)	500 mg/kg body weight

Oxirane, 2-methyl-, polymer with oxirane, ether with 2,6-bis[[bis-(2-hydroxyethyl)amino]methyl]-4-br (940912-28-7)	
ATE US (oral)	500 mg/kg body weight

ethanediol, ethylene glycol (107-21-1)	
LD50 oral rat	7712 mg/kg body weight Animal: rat
ATE US (oral)	500 mg/kg body weight

TCPP (13674-84-5)	
LD50 dermal rabbit	> 2000 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
ATE US (oral)	500 mg/kg body weight

1,2-dimethylimidazole (1739-84-0)	
LD50 oral rat	≈ 1300 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	> 200 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	3 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
ATE US (oral)	500 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight

Bis(dodecylthio)dimethylstannane (51287-84-4)	
LD50 oral rat	1150 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 850 - 1550
ATE US (oral)	1150 mg/kg body weight

Skin corrosion/irritation : Not classified
pH: 8.8
Serious eye damage/irritation : Causes serious eye damage.
pH: 8.8
Respiratory or skin sensitization : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

2,2' -oxybisethanol, diethylene glycol (111-46-6)	
NOAEL (chronic,oral,animal/male,2 years)	1210 mg/kg body weight Animal: rat, Animal sex: male
NOAEL (chronic,oral,animal/female,2 years)	1160 mg/kg body weight Animal: rat, Animal sex: female

Reproductive toxicity : Not classified

TCPP (13674-84-5)	
LOAEL (animal/female, F0/P)	99 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
NOAEL (animal/male, F0/P)	85 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)

STOT-single exposure : Not classified

STOT-repeated exposure : May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).

2,2' -oxybisethanol, diethylene glycol (111-46-6)	
LOAEL (oral,rat,90 days)	40000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
ethanediol, ethylene glycol (107-21-1)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

1,2-dimethylimidazole (1739-84-0)	
NOAEL (oral,rat,90 days)	150 mg/kg body weight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

Symptoms/effects after inhalation : Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Symptoms/effects after skin contact : May cause an allergic skin reaction.

Symptoms/effects after eye contact : Serious damage to eyes.

Symptoms/effects after ingestion : None under normal conditions.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

2,2' -oxybisethanol, diethylene glycol (111-46-6)	
LC50 - Fish [1]	75200 mg/l Test organisms (species): Pimephales promelas
NOEC (chronic)	≥ 1000 mg/l Test organisms (species): Americamysis bahia (previous name: Mysidopsis bahia) Duration: '23 d'

ethanediol, ethylene glycol (107-21-1)	
LC50 - Fish [1]	> 72860 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
NOEC (chronic)	≥ 1000 mg/l Test organisms (species): Americamysis bahia (previous name: Mysidopsis bahia) Duration: '23 d'

TCPP (13674-84-5)	
LC50 - Fish [1]	51 mg/l Test organisms (species): Pimephales promelas

TCPP (13674-84-5)	
EC50 - Crustacea [1]	131 mg/l Test organisms (species): Daphnia magna
NOEC (chronic)	32 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	5.2 mg/l Test organisms (species): other:

1,2-dimethylimidazole (1739-84-0)	
LC50 - Fish [1]	63.03 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
NOEC (chronic)	21.3 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

Bis(dodecylthio)dimethylstannane (51287-84-4)	
EC50 - Crustacea [1]	32 mg/l Test organisms (species): Daphnia magna

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

ethanediol, ethylene glycol (107-21-1)	
Partition coefficient n-octanol/water (Log Pow)	-1.36

12.4. Mobility in soil

ethanediol, ethylene glycol (107-21-1)	
Mobility in soil	0.2 Source: HSDB

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector’s sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

IATA
Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT
No data available

IMDG
No data available

IATA
No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

ethanediol, ethylene glycol (107-21-1)	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	5000 lb

15.2. International regulations

No additional information available

15.3. US State regulations

⚠ **WARNING:** This product can expose you to Ethylene glycol (ingested), 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.

Component	State or local regulations
2,2' -oxybisethanol, diethylene glycol(111-46-6)	U.S. - Pennsylvania - RTK (Right to Know) List
ethanediol, ethylene glycol(107-21-1)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

ICSDS_SDS_USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.