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1 Identification

- · Product identifier
- · Product Name: <u>Thiophanate-methyl</u>
- · Part Number: S-3494
- · Application of the substance / the mixture Certified Reference Material
- Details of the supplier of the safety data sheet
 Manufacturer/Supplier:
 SPEX CertiPrep, LLC.
 203 Norcross Ave, Metuchen,
 NJ 08840 USA
- Information department: product safety department • Emergency telephone number: Emergency Phone Number (24 hours) CHEMTREC (800-424-9300) Outside US: 703-527-3887

2 Hazard(s) identification

· Classification of the substance or mixture



Flam. Liq. 2 H225 Highly flammable liquid and vapor.

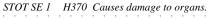


GHS06 Skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 Health hazard





Skin Sens. 1 H317 May cause an allergic skin reaction.

· Label elements

- GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- Hazard pictograms



- · Signal word Danger
- Hazard-determining components of labeling: methanol
- dimethylcarbamoyl chloride • Hazard statements
- Highly flammable liquid and vapor. Toxic if inhaled.
- May cause an allergic skin reaction.
- Causes damage to organs.
- · Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

 $Use \ explosion-proof \ electrical/ventilating/lighting/equipment.$

Do not breathe dust/fume/gas/mist/vapors/spray.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

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Product Name: Thiophanate-methyl	
• Classification system: • NFPA ratings (scale $0 - 4$) Health = 3 Fire = 3 Reactivity = 0	(Contd. of page 1)
$HMIS-ratings (scale 0 - 4)$ $HEALTH [3] FIRE [3] Fire = 3$ $REACTIVITY \bigcirc Reactivity = 0$	
• Other hazards • Results of PBT and vPvB assessment • PBT: Not applicable. • vPvB: Not applicable.	
3 Composition/information on ingredients	

· Chemical characterization: Mixtures

· Description: Mixture of the substances listed below with nonhazardous additions.

 • Dangerous components:

 67-56-1

 methanol

 23564-05-8

 dimethylcarbamoyl chloride

 0.1%

4 First-aid measures

· Description of first aid measures

• General information:

- Immediately remove any clothing soiled by the product.
- Remove breathing apparatus only after contaminated clothing have been completely removed. In case of irregular breathing or respiratory arrest provide artificial respiration.
- · After inhalation:
- Supply fresh air or oxygen; call for doctor.
- In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing: Do not induce vomiting; immediately call for medical help.
- Information for Doctor:
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents: CO2, sand, extinguishing powder. Do not use water.
- · For safety reasons unsuitable extinguishing agents: Water with full jet
- Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters
- · Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away.
- · Environmental precautions:
- Do not allow product to reach sewage system or any water course.
- Inform respective authorities in case of seepage into water course or sewage system.
- Do not allow to enter sewers/ surface or ground water.
- \cdot Methods and material for containment and cleaning up:
- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13.
- Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

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Product Name: Thiophanate-methyl

· Reference to other sections

See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- · Handling:
- · Precautions for safe handling
- Ensure good ventilation/exhaustion at the workplace. Open and handle receptacle with care. Prevent formation of aerosols.
- · Information about protection against explosions and fires: Keep ignition sources away - Do not smoke. Protect against electrostatic charges. Keep respiratory protective device available.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles: Store in a cool location.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions:
- Keep receptacle tightly sealed.
- Store in cool, dry conditions in well sealed receptacles. · Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see item 7.

· Control parameters

Com	for parameters	
· Com	ponents with limit values that require monitoring at the workplace:	
67-5	6-1 methanol	
PEL	Long-term value: 260 mg/m ³ , 200 ppm	
REL	Short-term value: 325 mg/m³, 250 ppm	
	Long-term value: 260 mg/m ³ , 200 ppm	
	Skin	
TLV	Short-term value: 328 mg/m ³ , 250 ppm	
	Long-term value: 262 mg/m³, 200 ppm Skin; BEI	
· Ingredients with biological limit values:		
67-56-1 methanol		
	15 mg/L	
	Medium: urine	
	Time: end of shift	
	Parameter: Methanol (background, nonspecific)	
• Additional information: The lists that were valid during the creation were used as basis.		
· Exposure controls		
	onal protective equipment:	
~		

- · General protective and hygienic measures:
- Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid contact with the eyes and skin.

· Breathing equipment:

- In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- · Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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Safety Data Sheet acc. to OSHA HCS

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Product Name: Thiophanate-methyl

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation • Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- · Penetration time of glove material
- The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- \cdot Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties		
· General Information		
· Appearance:		
Form:	Liquid	
Color:	According to product specification	
· Odor:	Characteristic	
· Odour Threshold:	Not applicable.	
· pH-value:	Not applicable.	
· Change in condition		
Melting point/Melting range:	Undetermined.	
Boiling point/Boiling range:	$64 {}^{\circ}C (147 {}^{\circ}F)$	
· Flash point:	11 °C (52 °F)	
· Flammability (solid, gaseous):	Not applicable.	
· Ignition temperature:	455 °C (851 °F)	
• Decomposition temperature:	Not applicable.	
• Auto igniting:	Product is not selfigniting.	
• Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.	
· Explosion limits:		
Lower:	5.5 Vol %	
Upper:	44.0 Vol %	
· Vapor pressure at 20 °C (68 °F):	128 hPa (96 mm Hg)	
· Density	Not applicable.	
· Relative density	Not applicable.	
· Vapor density	Not applicable.	
· Evaporation rate	Not applicable.	
· Solubility in / Miscibility with		
Water:	Not miscible or difficult to mix.	
· Partition coefficient (n-octanol/water	:): Not applicable.	
· Viscosity:		
Dynamic:	Not applicable.	
Kinematic:	Not applicable.	
· Solvent content:		
Organic solvents:	99.9 %	
VOC content:	99.9 %	
Solids content:	0.1 %	
· Other information	No further relevant information available.	

10 Stability and reactivity

· Reactivity No further relevant information available.

· Chemical stability

• Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

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Product Name: Thiophanate-methyl

- · Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:
- · LD/LC50 values that are relevant for classification:
- 67-56-1 methanol
- Oral LD50 5628 mg/kg (rat)
- Dermal LD50 15800 mg/kg (rabbit)
- Primary irritant effect:
- · on the skin: No irritant effect.
- on the eye: No irritating effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:
- The product shows the following dangers according to internally approved calculation methods for preparations: Toxic
- · Carcinogenic categories
- · IARC (International Agency for Research on Cancer)
- None of the ingredients is listed.
- · NTP (National Toxicology Program)
- None of the ingredients is listed.
- · OSHA-Ca (Occupational Safety & Health Administration)
- None of the ingredients is listed.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:
- Water hazard class 1 (Self-assessment): slightly hazardous for water
- Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

4 Transport information		
· UN-Number · DOT, ADR, IMDG, IATA	UN1230	
· UN proper shipping name		
· DOT, IATA	Methanol	
·ADR	1230 Methanol	

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Product Name: Thiophanate-methyl

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	(Contd. of pag
· IMDG	METHANOL
Transport hazard class(es)	
DOT	
3	
Class Label	3 Flammable liquids 3, 6.1
ADR	
Class Label	3 Flammable liquids 3+6.1
IMDG	
Class Label	3 Flammable liquids 3/6.1
ΙΑΤΑ	
Class Label	3 Flammable liquids 3 (6.1)
	5 (0.1)
Packing group DOT, ADR, IMDG, IATA	11
Environmental hazards:	Not applicable.
Special precautions for user	Warning: Flammable liquids
Danger code (Kemler):	336
EMS Number: Stowage Category	F-E,S-D B
Stowage Code	SW2 Clear of living quarters.
Transport in bulk according to Annex II of MAR Code	POL73/78 and the IBC Not applicable.
Transport/Additional information:	
ADR	
Excepted quantities (EQ)	Code: E2 Maximum est quantite per inner packaging, 20 ml
	Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
IMDG	
Limited quantities (LQ)	IL
Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
	Maximum net quantity per outer packaging: 500 ml
UN "Model Regulation":	UN 1230 METHANOL, 3 (6.1), II

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Product Name: Thiophanate-methyl

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IS Regulatory information Sofety, health and environmental regulation/legislation specific for the substance or mixture Some Some of the ingredients is listed. Sofeting SS (extremely hazardnus substances): Now of the ingredients is listed. Sofeting SS (extremely hazardnus substances): Origonia SS (extremely hazardnus substances): Origonia SS (extremely hazardnus substances): Other information S Sofeting SS (extremely hazardnus): Origonia SS (extremely hazardnus): Other information Status Other information SS (extremely hazardnus): Other information SS (extremely hazardnus): Other information SS (extremely hazardnus): Other information Status Other informatis Sta	
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Dispose of contents/container in accordance with local/regional/national/international regulations.	
· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.	Dispose of contents/container in accordance with local/regional/national/international regulations.
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16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: product safety department
- · Contact:
- *SPEX CertiPrep, LLC.* 1-732-549-7144
- · Date of preparation / last revision 06/20/2016 / -

Printing date 06/20/2016

Product Name: Thiophanate-methyl

Reviewed on 06/20/2016

Abbreviations and acronyms: Abbreviations and acronyms: Abbreviations and acronyms: Abbreviations are le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IMTA: International AIT Transport Association ACGIH: American Conference of Governmental Industrial Hygienists EURCCS: European List of Notified Chemical Substances ELINCS: European List of Notified Chemical Substances Elines Substances Substances ELINCS: Lethal dose, 50 percent LISSO: Lethal concentration, 50 percent		(Contd. of page 7)
IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transport Association ACGIH: American Conference of Governmental Industrial Hygienists EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances ELINCS: European Inventory of Existing Commercian Chemical Society) NPPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal dose, 50 percent LD50: Lethal dose, 50 percent VD51: Very Persistent, Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health TU: Treshold Limit PEL: Permissible Exposure Limit REL: Recommended Exposure Limit REL: Recommended Exposure Limit FEL: Biological Exposure Limit FEL: Biological Exposure Limit FIam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox. 3: Acute toxicity, Hazard Category 1	· Abbreviations and acronyms:	
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Skin Sens. 1: Sensitisation - Skin, Hazard Category 1	Flam. Liq. 2: Flammable liquids, Hazard Category 2	
STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1	Skin Sens. 1: Sensitisation - Skin, Hazard Category 1	
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