Page 1/8

# **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.

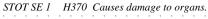


GHS06 Skull and crossbones

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.

Printing date 06/20/2016

Reviewed on 06/20/2016

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

(Contd. on page 3)

US

Printing date 06/20/2016

## 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 <sup>3</sup> , 200 ppm	
REL	Short-term value: 325 mg/m³, 250 ppm	
	Long-term value: 260 mg/m <sup>3</sup> , 200 ppm	
	Skin	
TLV	Short-term value: 328 mg/m <sup>3</sup> , 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.

US

(Contd. of page 2)

Reviewed on 06/20/2016

Reviewed on 06/20/2016

(Contd. of page 3)

Safety Data Sheet acc. to OSHA HCS

Printing date 06/20/2016

#### 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.

(Contd. on page 5)

US

#### 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	

US

Reviewed on 06/20/2016

Printing date 06/20/2016

# Product Name: Thiophanate-methyl

Reviewed on 06/20/2016

	(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

(Contd. on page 7)

## Product Name: Thiophanate-methyl

Reviewed on 06/20/2016

(Contd. of page 6)

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	
<ul> <li>Saria</li> <li>Section 335 (extremely hazardous substances):</li> <li>None of the ingredients is listed.</li> <li>Section 313 (Specific toxic chemical listings):</li> <li>All ingredients are listed.</li> <li>'None of the ingredients is listed.</li> <li>'None of the ingredients is listed.</li> <li>'None of the ingredients is listed.</li> <li>'Chemicals known to cause cancer:</li> <li>None of the ingredients is listed.</li> <li>'Chemicals known to cause reproductive taxicity for famales:</li> <li>'23564-03-8] dimethylcarbannyl chloride</li> <li>'Chemicals known to cause reproductive taxicity for males:</li> <li>'23564-03-8] dimethylcarbannyl chloride</li> <li>'Chemicals known to cause reproductive taxicity for males:</li> <li>'23564-03-8] dimethylcarbannyl chloride</li> <li>'Chemicals known to cause reproductive taxicity:</li> <li>'Chemicals known to cause developmental toxicity:</li> <li>'Ti U (Threshold Limit Value established by ACGIII)</li> <li>None of the ingredients is listed.</li> <li>'NORSUL-Ca (National Institute for Occupational Safety and Health)</li> <li>None of the ingredients is listed.</li> <li>'NORSUL-Ca (National Institute for Occupational Safety and Health)</li> <li>None of the ingredients is listed.</li> <li>'NORSUL-Ca (National Institute for Occupational Safety and Health)</li> <li>None of the ingredients is listed.</li> <li>'NORSUL-Ca (National Institute for Occupational Safety and Health)</li> <li>None of the</li></ul>	15 Regulatory information
None of the ingredients is histed.         - Section 313 Specific toxic chemical listings):         All ingredients are listed.         - 7750-71 processor	
Section 313 (Specific toxic chemical listings):     All mycedients are listed.     If SCA (Toxic Substance Control Act);     G7-561 [methanol     Troposition 65     Troposition 65     Chemicals known to cause cancer:     Now of the ingredients is listed.     Chemicals known to cause cancer:     Now of the ingredients is listed.     Chemicals known to cause reproductive toxicity for females:     25564-05-8] dimethylcarbanoyl chloride     Chemicals known to cause reproductive toxicity for males:     25564-05-8] dimethylcarbanoyl chloride     Chemicals known to cause reproductive toxicity for males:     25564-05-8] dimethylcarbanoyl chloride     Chemicals known to cause developmental toxicity:     G7-56-1 [methanol     Chemicals known town towetavalue     Gre	· Section 355 (extremely hazardous substances):
All ingredients are listed.         • <b>TSC</b> (Taxle Substances Control Act):         • <b>67</b> : 56: 1 pre-thanol         • <b>Proposition 65</b> • <b>Chemicals known to cause exproductive toxicity for fenales:</b> 23564-05: 8 [dimethylcarbanos] chloride         • <b>Chemicals known to cause reproductive toxicity for fenales:</b> 23564-05: 8 [dimethylcarbanos] chloride         • <b>Chemicals known to cause reproductive toxicity for males:</b> 23564-05: 8 [dimethylcarbanos] chloride         • <b>Chemicals known to cause reproductive toxicity for males:</b> 23564-05: 8 [dimethylcarbanos] chloride         • <b>Chemicals known to cause enveronductive toxicity for males:</b> 23564-05: 8 [dimethylcarbanos] chloride         • <b>Chemicals known to cause enveronductive toxicity: 67</b> -56-1 [methanol         • <b>Chemicals known to cause enveronductive toxicity: 67</b> -56-1 [methanol         • <b>Chemicals known to cause enveronductive toxicity: 67</b> -56-1 [methanol         • <b>Chemicals known to cause enveronductive:</b> • <b>IFX (Horsional Institute for Occupational Safety and Health)</b> None of the ingredients is listed.         • <b>NOBSI-Ca (National Institute for Occupational Safety and Health)</b> None of the ingredients is local         • <b>Gifts fide Elements The product is classified and labeled accordi</b>	None of the ingredients is listed.
All ingredients are listed.         • <b>TSC</b> (Taxle Substances Control Act):         • <b>67</b> : 56: 1 pre-thanol         • <b>Proposition 65</b> • <b>Chemicals known to cause exproductive toxicity for fenales:</b> 23564-05: 8 [dimethylcarbanos] chloride         • <b>Chemicals known to cause reproductive toxicity for fenales:</b> 23564-05: 8 [dimethylcarbanos] chloride         • <b>Chemicals known to cause reproductive toxicity for males:</b> 23564-05: 8 [dimethylcarbanos] chloride         • <b>Chemicals known to cause reproductive toxicity for males:</b> 23564-05: 8 [dimethylcarbanos] chloride         • <b>Chemicals known to cause enveronductive toxicity for males:</b> 23564-05: 8 [dimethylcarbanos] chloride         • <b>Chemicals known to cause enveronductive toxicity: 67</b> -56-1 [methanol         • <b>Chemicals known to cause enveronductive toxicity: 67</b> -56-1 [methanol         • <b>Chemicals known to cause enveronductive toxicity: 67</b> -56-1 [methanol         • <b>Chemicals known to cause enveronductive:</b> • <b>IFX (Horsional Institute for Occupational Safety and Health)</b> None of the ingredients is listed.         • <b>NOBSI-Ca (National Institute for Occupational Safety and Health)</b> None of the ingredients is local         • <b>Gifts fide Elements The product is classified and labeled accordi</b>	Section 313 (Specific toxic chemical listings):
- TSCA (Taxic Substances Control Act):         67-56-1] methanol         - Proposition 65         - Chemicals Known to cause cancer:         None of the ingredients is listed.         - Chemicals Known to cause reproductive toxicity for females:         23564-05-8] dimethylcarbarnay! chloride         - Chemicals Known to cause reproductive toxicity for males:         23564-05-8] dimethylcarbarnay! chloride         - Chemicals Known to cause developmental toxicity:         67-56-1] methanol         - Chemicals Known to cause developmental toxicity:         67-56-1] methanol         - Chemicals Known to cause developmental toxicity:         67-56-1] methanol         - Chemicals Known to cause sublished by ACGIII)         None of the ingredients is listed         - TLV (Threshold Limit Value established by ACGIII)         None of the ingredients is listed         - NORDH-Ca (National Institute for Occupational Safety and Health)         None of the ingredients is classified and labeled according to the Globally Harmonized System (GHS).         - Histard pictograms <ul> <li>GHS0 &amp; GHS07</li> <li>GHS08</li> <li>GHS02</li> <li>GHS04</li> <li>GHS04</li> <li>GHS07</li> <li>GHS08</li> <li>Signal word Danger</li> <li>Hazard statements</li> <li>Highly flamable liquid and vapor.</li> <li>Toxic ( jinhaled.</li> <li>Mazard statements</li> <li< td=""><td></td></li<></ul>	
67:56:1   mechanol         • Proposition 65         • Chemicals known to cause cancer:         None of the ingredients is listed.         • Chemicals known to cause reproductive toxicity for females:         23564-05-8   dimethylcarbanovyl chloride         • Chemicals known to cause reproductive toxicity for males:         23564-05-8   dimethylcarbanovyl chloride         • Chemicals known to cause developmental toxicity:         67:56:1         • PEA (Environmental Protection Agency)         None of the ingredients is listed.         • NOSH-Ca (National Institute for Occupational Safety and Health)         Nore of the ingredients is listed.         • Off label elements The product is classified anal labeled according to the Globally Harmonized System (	
Proposition 65     Chemicals known to cause cancer:     Nore of the ingredients is listed.     Chemicals known to cause eraproductive toxicity for females:     23564-05-8 [dimethylcarbanoyl chloride     Chemicals known to acuse ereproductive toxicity for males:     23564-05-8 [dimethylcarbanoyl chloride     Chemicals known to cause developmental toxicity:         Chemicals known toxicity of the categories         Chemicals known to cause developmental toxicity:         Chemicals known toxicity of toxicity         Chemicals known to cause developmental toxicity:         Chemicals known toxicity of toxicity of the categories         Chemicals known toxicity in known toxicity of the categories         Signal word Danger         Hazard-determining components of labeling:         methand         dimethylcarbanoyl chloride         Hazard-	
• Chemicals known to cause cancer:         None of the ingredients is listed.         • Chemicals known to cause reproductive toxicity for females:         23564-05-8 [dimethylcarbanoyl chloride         • Chemicals known to cause reproductive toxicity for males:         23564-05-8 [dimethylcarbanoyl chloride         • Chemicals known to cause reproductive toxicity:         • Othericals known to cause developmental toxicity:         • Othericals (Known to cause developments of labeling:         • Hisport (Causinang)         • Othericals (F	
None of the ingredients is listed.         • Chemicals known to cause reproductive toxicity for females:         23564-05-8 [dimethylcarbamoy] chloride         - Chemicals known to cause developmental toxicity:         67-56-1 [methanol         - Carcinogenic categories         - EAR (Environmental Protection Agency)         None of the ingredients is listed.         - TLV (Threshold Limit Value established by ACGH)         None of the ingredients is listed.         - NOSH-Ca (National Institute for Occupational Safety and Health)         None of the ingredients is listed.         - HISUS Label elements The product is classified and labeled according to the Globally Harmonized System (GHS).         - Hazard pictograms         - GHS02       GHS02         - GHS02       GHS07         - GHS08         - Signal word Danger         - Hazard determining components of labeling: methanol         dimethylcarbamoyl chloride         Hazard statements         Highly finamoble liquid and vapor. Toxic if inhaled.         Hazard statements         Keep away from headyparkshopen flames/hot surfaces. No smoki	•
Chemicals known to cause reproductive toxicity for females:     23564-05-8 [dimethylcarbamoyl chloride     Chemicals known to cause reproductive toxicity for males:     23564-05-8 [dimethylcarbamoyl chloride     Chemicals known to cause developmental toxicity:         67-56-1 [methanol     Chemicals known to cause developmental toxicity:         67-56-1 [methanol     Carcinogenic categories     EPA (Environmental Protection Agency)     None of the ingredients is listed.     TUY (Threshold Limit Value established by ACGHI)     None of the ingredients is listed.     NOSH-Ca (National Institute for Occupational Safety and Health)     None of the ingredients is listed.     NOSH-Ca (National Institute for Occupational Safety and Health)     None of the ingredients is listed.     SIGN word Danger     GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).     Signal word Danger     Heard-determining components of labeling:     methanol     dimethylcarbamoyl chloride     Hazard-pictorhamental     Highly flammable liquid and vapor.     Toxic if inhaled.     May cause an allergic skin reaction.     Causes damage to organs.     Greace and allergic skin reaction.     Causes damage to organs.     Serve and light skin reaction.     Causes damage to organs.     Vise explosion-proof electrical/sentilating/fighting/equipment.     Do not breathe dats/fumer/skypors/paryer.     Jo not preate distyfumer/skypors/paryer.     Jo not preate light skin reaction.     Conset lockad up.     Dispose of contents/container in accordance with local/regional/national/international regulations.	
23564-05-8       dimethylcarbamoyl chloride         • Chemicals known to cause reproductive toxicity for males:         23564-05-8       dimethylcarbamoyl chloride         • Chemicals known to cause developmental toxicity:         67-56-1       methanol         • Carcinagenic categories         • PPA (Environmental Protection Agency)         None of the ingredients is listed.         • TLV (Threshold Limit Value established by ACGHI)         None of the ingredients is listed.         • NOSH-Ca (National Institute for Occupational Safety and Health)         None of the ingredients is listed.         • NOSH-Ca (National Institute for Occupational Safety and Health)         None of the ingredients is listed.         • Offs label elements The product is classified and labeled according to the Globally Harmonized System (GHS).         • Hazard pictograms         • GHS00       GHS07         • GHS08       GHS07         • Hazard-determining components of labeling: methanol         imethylcarbamoyl chloride         • Hazard-determining components of labeling: methanol         inheld,         May cause an allergic skin reaction.         Causes damage to argons.         • Precautionary statements         Keep away from headsparks/open flames/hot surfaces. No smoking. Use explosion-proof electrical/ventilating/	
• Chemicals known to cause reproductive toxicity for males:         23564-05-8 dimethylcarbamoyl chloride         • Chemicals known to cause developmental toxicity:         67-56-1 methanol         • Carcinogenic categories         • EPA (Environmental Protection Agency)         None of the ingredients is listed.         • TLY (Threshold Limit Value established by ACGIH)         None of the ingredients is listed.         • NOSH-Ca (National Institute for Occupational Safety and Health)         None of the ingredients is listed.         • ORDSH-Ca (National Institute for Occupational Safety and Health)         None of the ingredients is listed.         • ORDSH-Ca (National Institute for Occupational Safety and Health)         None of the ingredients is classified and labeled according to the Globally Harmonized System (GHS).         • Hazard pictograms         • GHS 10bel telements The product is classified and labeled according to the Globally Harmonized System (GHS).         • Hazard dictermining components of labeling: methanol dimethylcarbamoyl chloride         • Hazard statements         • Hazard statements         • Highly flammable liquid and vapor.         • Taxic if inhold.         May cause an allergic skin reaction.         Carce statements         • Hazard statements         • Highly flammable liquid and vapor. <t< td=""><td></td></t<>	
23564-05-8       dimethylcarbamoyl chloride         • Chemicals known to cause developmental toxicity:       67-56-1         67-56-1       methanol         • Carcinogenic categories       •         • EFA (Environmental Protection Agency)       None of the ingredients is listed.         • TUY (Threshold Limit Value established by ACGIH)       None of the ingredients is listed.         • NOSH-Ca (National Institute for Occupational Safety and Health)       None of the ingredients is listed.         • NOSH-Ca (National Institute for Occupational Safety and Health)       None of the ingredients is listed.         • HAS Label elements The product is classified and labeled according to the Globally Harmonized System (GHS).       •         • Hazard pictograms       •       •         • GHS02       GHS06       GHS07       GHS08         • Signal word Danger       •       •         • Hazard Jetermining components of labeling: methanol dimethylcarbamoyl chloride       •         • Hazard statements Highly flammable liquid and vapor.       •       •         Toxic ij inholded.       •       •         • Hazard statements       •       •         • Highly flammable liquid and vapor.       •       •         Toxic ij inholded.       •       •         • Hazard Statements       •       •	
Chemicals known to cause developmental toxicity:     67-56-1 methanol     Carcinogenic categories     EPA (Environmental Protection Agency)     None of the ingredients is listed.     TLV (Threshold Limit Value established by ACGIH)     None of the ingredients is listed.     TLV (Threshold Limit Value established by ACGIH)     None of the ingredients is listed.     TLV (Threshold Limit Value established by ACGIH)     None of the ingredients is listed.     TLV (Threshold Limit Value established by ACGIH)     None of the ingredients is listed.     TLV (Threshold Limit Value established by ACGIH)     None of the ingredients is listed.     ORIS Label elements. The product is classified and labeled according to the Globally Harmonized System (GHS).     Hazard pictograms     Off Subel elements. The product is classified and labeled according to the Globally Harmonized System (GHS).     Hazard pictograms     Off Subel elements. The product is classified and labeled according to the Globally Harmonized System (GHS).     Hazard pictograms     Off Subel elements.     Hazard-determining components of labeling:     methanol     dimethylcarbamoyl chloride     Hazard statements     Highly flammable liquid and vapor.     Toxic i ji hubaled.     May cause an allergic skin reaction.     Causes damage to organs.     Precautionary statements     Hezdy from heat/Apents/sopen flames/hot surfaces. No smoking.     Use explosion-proof electrical/venitlating/lightimg/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 content/socnainer in accordance with local/regional/national/international regulations.	
67:56-1       methanol         • Carcinogenic categories       • EPA (Environmental Protection Agency)         None of the ingredients is listed.       • TLV (Threshold Limit Value established by ACGIH)         None of the ingredients is listed.       • NOSH-Ca (National Institute for Occupational Safety and Health)         None of the ingredients is listed.       • NOSH-Ca (National Institute for Occupational Safety and Health)         None of the ingredients is listed.       • OCCupational Safety and Health)         • GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).       • Hazard pictograms         • GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).       • Hazard pictograms         • Signal word Danger       • GHS of GHS 07       • GHS of GHS 07         • Hazard-determining components of labeling: mehanol dimethylearbamoyl chloride       • Hazard statements Highly flammable liquid and vapor. Toxic if inhaled.         • Hazard statements       • Highly flammable liquid and vapor. Toxis if inhaled.       • Precautionary statements         • Keep away from head/sparks/open flames/hot surfaces. No smoking. Use explosion-proof electrical/ventilating/lighting/equipment. Do not breathe dual/fume/gas/mis/vapors/spary. If on skin (or hair): Take off mmedilately all contaminated clothing. Rinse skin with water/shower. Store locked up.         Dispose of contents/container in accordance with local/regional/national/international regulations.     <	
<ul> <li>Carcinogenic categories</li> <li>CPA (Environmental Protection Agency)</li> <li>None of the ingredients is listed.</li> <li>TLV (Threshold Limit Value established by ACGIH)</li> <li>None of the ingredients is listed.</li> <li>NOSBI-Ca (National Institute for Occupational Safety and Health)</li> <li>None of the ingredients is listed.</li> <li>GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).</li> <li>Hazard pictograms</li> <li>GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).</li> <li>Hazard pictograms</li> <li>GHS label elements The product is classified on labeled according to the Globally Harmonized System (GHS).</li> <li>Hazard pictograms</li> <li>Signal word Danger</li> <li>Hazard-determining components of labeling: methanol dimethylcarbanoyi chloride</li> <li>Hazard statements</li> <li>Highly flammable liquid and vapor. Toxic if inhaled.</li> <li>May cause an allergic skin reaction. Causes damage to organs.</li> <li>Precautionary statements</li> <li>Keep away from heat/sparks/open flames/hot surfaces. No smoking. Use explosion-proof electrical/ventilaing/lighting/equipment. Do not breath dust/fume/gas/mist/vapors/spray.</li> <li>If on shit (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Store locked up.</li> <li>Dispose of contents/container in accordance with local/regional/national/international regulations.</li> </ul>	A 4
<ul> <li>EPA (Environmental Protection Agency) None of the ingredients is listed.</li> <li>TLV (Threshold Limit Value established by ACGIH) None of the ingredients is listed.</li> <li>NOBSH-Ca (National Institute for Occupational Safety and Health) None of the ingredients is listed.</li> <li>GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).</li> <li>Hazard pictograms <ul> <li>GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).</li> <li>Hazard pictograms</li> <li>GHS02</li> <li>GHS02</li> <li>GHS06</li> <li>GHS07</li> <li>GHS08</li> </ul> </li> <li>Signal word Danger <ul> <li>Hazard-determining components of labeling: methanol dimethylcarbamoyl chloride</li> <li>Hazard statements</li> <li>Highly flammable liquid and vapor. Toxic if inhaled.</li> <li>May cause an allergic skin reaction. Causes damage to organs.</li> <li>Precautionary Statements</li> <li>Keep away from healtyparks/open flames/hot surfaces. No smoking. Use explosion-proof electrical/ventilating/lighting/equipment. Do not breathe dust/fume/gas/mistr/vapors/spray.</li> <li>If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Store locked up.</li> </ul> </li> </ul>	67-56-1 methanol
<ul> <li>EPA (Environmental Protection Agency) None of the ingredients is listed.</li> <li>TLV (Threshold Limit Value established by ACGIH) None of the ingredients is listed.</li> <li>NOBSH-Ca (National Institute for Occupational Safety and Health) None of the ingredients is listed.</li> <li>GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).</li> <li>Hazard pictograms <ul> <li>GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).</li> <li>Hazard pictograms</li> <li>GHS02</li> <li>GHS02</li> <li>GHS06</li> <li>GHS07</li> <li>GHS08</li> </ul> </li> <li>Signal word Danger <ul> <li>Hazard-determining components of labeling: methanol dimethylcarbamoyl chloride</li> <li>Hazard statements</li> <li>Highly flammable liquid and vapor. Toxic if inhaled.</li> <li>May cause an allergic skin reaction. Causes damage to organs.</li> <li>Precautionary Statements</li> <li>Keep away from healtyparks/open flames/hot surfaces. No smoking. Use explosion-proof electrical/ventilating/lighting/equipment. Do not breathe dust/fume/gas/mistr/vapors/spray.</li> <li>If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Store locked up.</li> </ul> </li> </ul>	· Carcinogenic categories
<ul> <li>TV (Threshold Limit Value established by ACGIH)</li> <li>None of the ingredients is listed.</li> <li>NIOSH-Ca (National Institute for Occupational Safety and Health)</li> <li>None of the ingredients is listed.</li> <li>GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).</li> <li>Hazard pictograms</li> <li>GHS02</li> <li>GHS06</li> <li>GHS07</li> <li>GHS08</li> <li>Signal word Danger</li> <li>Hazard determining components of labeling: methanol dimethylcarbamoyl chloride</li> <li>Hazard statements</li> <li>Highly flammable liquid and vapor. Toxic if inhaled.</li> <li>May cause an allergic skin reaction. Causes damage to organs.</li> <li>Frecautionary statements</li> <li>Keep away from heat/sparks/open flames/hot surfaces. No smoking. Use explosion-proof electrical/ventilating/lighting/equipment. Do not breath dust/ytapor/spary.</li> <li>If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Store locked up.</li> <li>Dispose of contents/container in accordance with local/regional/national/international regulations.</li> </ul>	· EPA (Environmental Protection Agency)
None of the ingredients is listed.         • NIOSH-Ca (National Institute for Occupational Safety and Health)         None of the ingredients is listed.         • GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).         • Hazard pictograms	
None of the ingredients is listed.         • NIOSH-Ca (National Institute for Occupational Safety and Health)         None of the ingredients is listed.         • GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).         • Hazard pictograms	TLV (Threshold Limit Value established by ACGIH)
• NUSH-Ca (National Institute for Occupational Safety and Health)         None of the ingredients is listed.         • GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).         • Hazard pictograms	
None of the ingredients is listed.         • GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).         • Hazard pictograms         • $\phi$ $\phi$ <td></td>	
<ul> <li>GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).</li> <li>Hazard pictograms</li> <li>Hazard pictograms</li> <li>Hazard pictograms</li> <li>GHS02</li> <li>GHS06</li> <li>GHS07</li> <li>GHS08</li> <li>Signal word Danger</li> <li>Hazard-determining components of labeling: methanol dimethylcarbamoyl chloride</li> <li>Hazard statements Highly flammable liquid and vapor. Toxic if inhaled.</li> <li>May cause an allergic skin reaction. Causes damage to organs.</li> <li>Precautionary statements</li> <li>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.</li> <li>Dispose of contents/container in accordance with local/regional/national/international regulations.</li> </ul>	
<ul> <li>Hazard pictograms</li> <li>Hazard pictograms</li> <li>Will and the second sec</li></ul>	
<ul> <li>Signal word Danger</li> <li>Hazard-determining components of labeling: methanol dimethylcarbamoyl chloride</li> <li>Hazard statements Highly flammable liquid and vapor. Toxic if inhaled. May cause an allergic skin reaction. Causes damage to organs.</li> <li>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.</li> </ul>	
<ul> <li>Hazard-determining components of labeling: methanol dimethylcarbamoyl chloride</li> <li>Hazard statements Highly flammable liquid and vapor. Toxic if inhaled. May cause an allergic skin reaction. Causes damage to organs.</li> <li>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.</li> </ul>	
<ul> <li>methanol</li> <li>dimethylcarbamoyl chloride</li> <li>Hazard statements</li> <li>Highly flammable liquid and vapor.</li> <li>Toxic if inhaled.</li> <li>May cause an allergic skin reaction.</li> <li>Causes damage to organs.</li> <li>Precautionary statements</li> <li>Keep away from heat/sparks/open flames/hot surfaces. No smoking.</li> <li>Use explosion-proof electrical/ventilating/lighting/equipment.</li> <li>Do not breathe dust/fume/gas/mist/vapors/spray.</li> <li>If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.</li> <li>Store locked up.</li> <li>Dispose of contents/container in accordance with local/regional/national/international regulations.</li> </ul>	· Signal word Danger
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.	
<ul> <li>Hazard statements <ul> <li>Highly flammable liquid and vapor.</li> <li>Toxic if inhaled.</li> <li>May cause an allergic skin reaction.</li> <li>Causes damage to organs.</li> </ul> </li> <li>Precautionary statements <ul> <li>Keep away from heat/sparks/open flames/hot surfaces. No smoking.</li> <li>Use explosion-proof electrical/ventilating/lighting/equipment.</li> <li>Do not breathe dust/fume/gas/mist/vapors/spray.</li> <li>If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.</li> <li>Store locked up.</li> <li>Dispose of contents/container in accordance with local/regional/national/international regulations.</li> </ul> </li> </ul>	
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.	
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.	Highly flammable liquid and vapor.
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.	
<ul> <li>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.     </li> </ul>	May cause an allergic skin reaction. Causes damage to organs
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.	
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.	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
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.	Use explosion-proof electrical/ventilating/lighting/equipment.
Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations.	Do not breathe ausu/fume/gas/mist/vapors/spray. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
	· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## **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:	
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	ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)	
IATA: International Air Transport Association ACGHI: American Conference of Governmental Industrial Hygienists ELINCS: European List of Notified Chemical Substances ELINCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent D50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEJ: Biological Exposure Limit Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox. 3: Acute Toxici, Hazard Category 1		
ACGIH: American Conference of Governmental Industrial Hygienists EINECS: European Inventory of Existing Commercial Chemical Substances ELINCCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) VOC: Volatile Organic Compounds (USA, EU) LCSO: Lethal concentration, 50 percent LDSO: Lethal dose, 50 percent DST: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommende Exposure Limit REL: Recommende Exposure Limit REL: Recommende Exposure Limit BEI: Biological Exposure Limit FIam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox, 3: Acute Toxic; Hazard Category 1	DOT: US Department of Transportation	
EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEJ: Biological Exposure Limit Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox, 3: Acute Toxic; Hazard Category 1	IATA: International Air Transport Association	
ELINCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEI: Biological Exposure Limit Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox, 3: Acute Toxicity, Hazard Category 1	ACGIH: American Conference of Governmental Industrial Hygienists	
CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA) HMIS: Hacardous Materials Identification System (USA) VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent DD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommende Exposure Limit BEI: Biological Exposure Limit Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox, 3: Acute toxicity, Hazard Category 1	EINECS: European Inventory of Existing Commercial Chemical Substances	
NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent DD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEI: Biological Exposure Limit Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox. 3: Acute toxicity, Hazard Category 1	ELINCS: European List of Notified Chemical Substances	
HMIS: Hazardous Materials Identification System (USA) VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent DS0: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEI: Biological Exposure Limit BEI: Biological Exposure Limit Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox. 3: Acute Toxicity, Hazard Category 1	CAS: Chemical Abstracts Service (division of the American Chemical Society)	
<ul> <li>VOC: Volatile Organic Compounds (USA, ÉU)</li> <li>LCS0: Lethal concentration, 50 percent</li> <li>LDS0: Lethal concentration, 50 percent</li> <li>PBT: Persistent, Bioaccumulative and Toxic</li> <li>vPvB: very Persistent and very Bioaccumulative</li> <li>NIOSH: National Institute for Occupational Safety</li> <li>OSHA: Occupational Safety &amp; Health</li> <li>TLV: Threshold Limit Value</li> <li>PEL: Permissible Exposure Limit</li> <li>REL: Recommende Exposure Limit</li> <li>BEI: Biological Exposure Limit</li> <li>Flam. Liq. 2: Flammable liquids, Hazard Category 2</li> <li>Acute Tox: 3: Acute toxicity, Hazard Category 1</li> </ul>	NFPA: National Fire Protection Association (USA)	
LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEI: Biological Exposure Limit BEI: Biological Exposure Limit Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox. 3: Acute Toxi, 3: Acute Toxicity, Hazard Category 1	HMIS: Hazardous Materials Identification System (USA)	
LDS0: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEI: Biological Exposure Limit Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox. 3: Acute Toxicity, Hazard Category 1	VOC: Volatile Organic Compounds (USA, EU)	
PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEI: Biological Exposure Limit Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox. 3: Acute toxicity, Hazard Category 3 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1	LC50: Lethal concentration, 50 percent	
vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEI: Biological Exposure Limit Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox. 3: Acute toxicity, Hazard Category 3 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1	LD50: Lethal dose, 50 percent	
NIOSH: İxational Institute for Occupational Safety OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEI: Biological Exposure Limit Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox. 3: Acute toxicity, Hazard Category 3 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1	PBT: Persistent, Bioaccumulative and Toxic	
OSHA: Occupational Safety & Health TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEI: Biological Exposure Limit Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox. 3: Acute toxicity, Hazard Category 3 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1	vPvB: very Persistent and very Bioaccumulative	
TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEI: Biological Exposure Limit Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox. 3: Acute toxicity, Hazard Category 3 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1	NIOSH: National Institute for Occupational Safety	
PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEI: Biological Exposure Limit Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox. 3: Acute toxicity, Hazard Category 3 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1	OSHA: Occupational Safety & Health	
REL: Recommended Exposure Limit BEI: Biological Exposure Limit Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox. 3: Acute toxicity, Hazard Category 3 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1	TLV: Threshold Limit Value	
BEI: Biological Exposure Limit Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox. 3: Acute toxicity, Hazard Category 3 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1		
Flam. Liq. 2: Flammable liquids, Hazard Category 2 Acute Tox. 3: Acute toxicity, Hazard Category 3 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1	REL: Recommended Exposure Limit	
Acute Tox. 3: Acute toxicity, Hazard Category 3 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1	BEI: Biological Exposure Limit	
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	
	STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1	