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***** Section 1 - Product and Company Identification *****

Manufacturer/Importer Information

Therma-Tru Corporation
 108 RE Jones Road
 Butler IN, 46721

Emergency Phone: CHEMTREC, U.S. : (800) 424-9300
 International: (703) 527-3887

Product Identifier

64-2005

Recommended Use

No recommended use available.

Restrictions on Use

No restrictions available.

***** Section 2 – Hazards Identification *****

GHS Classification

RESPIRATORY SENSITIZATION – Category 1

SKIN SENSITIZATION – Category 1B

CARCINOGENICITY – Category 1A

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) – Category 1

GHS Label Elements


Symbol(s)



Signal Word - Danger

Hazard Statements

- May cause allergy or asthma symptoms or breathing difficulties if inhaled
- May cause an allergic skin reaction
- May cause cancer
- Causes damage to organs

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Precautionary Statements

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response

IF exposed: Call a POISON CENTER or physician. IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: get medical attention.

Storage

Store locked up.

*** Section 3 – Composition / Information on Ingredients ***


CAS #	Component	Percent
68186-85-6	Cobalt titanate green spinel	-
67-56-1	Methanol	-
111-76-2	2-butoxyethanol	-
112-34-5	2-(2-butoxyethoxy)ethanol	-
1345-16-0	Cobalt aluminate blue spinel	-
12035-39-1	Nickel titanium trioxide	-
1897-45-6	Tetrachloroisophthalonitrile	-
7664-41-7	Ammonia	-
124-68-5	2-amino-2-methylpropanol	-
7631-86-9	Synthetic amorphous silica	-

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

*** Section 4 – First Aid Measures ***

First Aid: Eyes

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician.

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First Aid: Skin

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

First Aid: Ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

First Aid: Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In the event of any complaints or symptoms, avoid further exposure.

***** Section 5 – Fire Fighting Measures *****

General Fire Hazards

See Section 9 for Flammability Properties.
 In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous Combustion Products


Carbon dioxide, carbon monoxide and metal oxide/oxides.

Extinguishing Media

Use extinguishing media suitable for the surrounding fire

Unsuitable Extinguishing Media

None known

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Fire Fighting Equipment/Instructions

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

***** Section 6 – Accidental Release Measures *****

Recovery and Neutralization

Stop the source of the release, if safe to do so.

Materials and Methods for Clean-Up

Small spill: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Emergency Measures


No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Personal Precautions and Protective Equipment

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in “For nonemergency personnel.”

Environmental Precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

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Prevention of Secondary Hazards

None

***** Section 7 – Handling and Storage *****

Handling Procedures

Put on appropriate personal protective equipment (see Section 8). Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure – obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage Procedures

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.


Incompatibilities

No specific data.

***** Section 8 – Exposure Controls / Personal Protection *****

Component Exposure Limits

Name (CAS #)	OSHA – PEL	ACGIH – TLV
Cobalt titanate green spinel(68186-85-6)	OSHA PEL (United States). TWA: 0.1 mg/m ³ 8 hours.	ACGIH TLV (United States). TWA: 0.02 mg/m ³ 8 hours.
Methanol(67-56-1)	OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. TWA: 200 ppm 8 hours. TWA: 260 mg/m ³ 8 hours. STEL: 250 ppm 15 minutes. STEL: 325 mg/m ³ 15 minutes. OSHA PEL (United States,	ACGIH TLV (United States, 3/2012). Absorbed through skin. TWA: 200 ppm 8 hours. TWA: 262 mg/m ³ 8 hours. STEL: 250 ppm 15 minutes. STEL: 328 mg/m ³ 15 minutes.

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	6/2010). TWA: 200 ppm 8 hours. TWA: 260 mg/m ³ 8 hours.	
2-butoxyethanol(111-76-2)	OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. TWA: 25 ppm 8 hours. TWA: 120 mg/m ³ 8 hours. OSHA PEL (United States, 6/2010). Absorbed through skin. TWA: 50 ppm 8 hours. TWA: 240 mg/m ³ 8 hours.	ACGIH TLV (United States, 3/2012). TWA: 20 ppm 8 hours.
Cobalt aluminate blue spinel (1345-16-0)	OSHA PEL (United States). TWA: 0.1 mg/m ³ 8 hours.	ACGIH TLV (United States). TWA: 0.02 mg/m ³ 8 hours.
Nickel titanium trioxide(12035-39-1)	OSHA PEL (United States, 6/2010). TWA: 1 mg/m ³ , (as Ni) 8 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 0.1 mg/m ³ , (as Ni) 8 hours. Form: Soluble	ACGIH TLV (United States, 3/2012). TWA: 0.1 mg/m ³ , (as Ni) 8 hours. Form: Inhalable fraction
Ammonia(7664-41-7)	OSHA PEL (United States). TWA: 50 ppm 8 hours.	ACGIH TLV (United States). TWA: 25 ppm 8 hours. STEL: 35 ppm 15 minutes.
Synthetic amorphous silica (7631-86-9)	OSHA PEL (United States). TWA: 80 mg/m ³ 8 hours.	ACGIH TLV (United States). TWA: 10 mg/m ³ 8 hours


Engineering Measures

If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Personal Protective Equipment: Hygiene

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated

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work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment: Respiratory

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Dry sanding, flame cutting and/or welding of the dry paint film will give rise to dust and/ or hazardous fumes. Wet sanding/flattening should be used wherever possible. If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used.

Personal Protective Equipment: Hands

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Personal Protective Equipment: Eyes

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with sideshields.

Personal Protective Equipment: Skin and Body

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

***** Section 9 – Physical & Chemical Properties *****

Appearance:	NA	Odor:	NA
Physical State:	Liquid	pH:	9 to 9.5
Vapor Pressure:	17.5 mm Hg (2.3275 kPa)	Vapor Density:	<1 (Air=1) (calculation method)
Boiling Point:	65-174°C (149-345.2°F)	Melting Point:	NA
Solubility (H2O):	NA	Specific Gravity:	NA

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Evaporation Rate:	Highest known value: greater than 1. (methanol) compared with butyl acetate	VOC:	NA
Octanol/H₂O Coeff.:	NA	Flash Point:	94°C (201.2°F) (Product does not sustain combustion)
Flash Point Method:	Close cup	Upper Flammability Limit (UFL):	36.5%
Lower Flammability Limit (LFL):	1.1%	Burning Rate:	NA
Auto Ignition Temperature	NA		

***** Section 10 – Chemical Stability & Reactivity Information *****

Chemical Stability

The product is stable.

Hazardous Reaction Potential

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to Avoid

No specific data.

Incompatible Products

No specific data.

Hazardous Decomposition Products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

***** Section 11 – Toxicological Information *****


Acute Toxicity

A: General Product Information

Not available.

B: Component Analysis – LD50/LC50

Name (CAS#)	Results	Species	Dose	Exposure
Methanol(67-56-1)	LC50 Inhalation Vapor LD50 Dermal LD50 Oral	Rat Rabbit Rat	64000 ppm 12800 mg/kg 5600 mg/kg	4 hours
2-butoxyethanol(111-76-2)	LC50 Inhalation Vapor LD50 Dermal LD50 Oral	Rat Rabbit Rat	450 ppm 220 mg/kg 250 mg/kg	4 hours

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2-(2-butoxyethoxy)ethanol(112-34-5)	LD50 Dermal LD50 Oral	Rabbit Rat	2700 mg/kg 4500 mg/kg	
Tetrachloroisophthalonitrile(1897-45-6)	LC50 Inhalation Vapor LD50 Oral	Rat Rat	220 mg/m ³ 10000mg/kg	4 hours
Ammonia(7664-41-7)	LC50 Inhalation Vapor LD50 Dermal LD50 Oral	Rat Rat Rat	2000 ppm 4840 mg/kg 350 mg/kg	4 hours
2-amino-2-methylpropanol(124-68-5)	LD50 Oral	Rat	2900 mg/kg	
Synthetic amorphous silica(7631-86-9)	LD50 Dermal LD50 Oral	Rabbit Rat	7500 mg/kg 3160 mg/kg	

Potential Health Effects: Skin Corrosion Property

Adverse symptoms may include the following: irritation and redness.

Potential Health Effects: Eye Critical Damage

No known significant effects or critical hazards.

Potential Health Effects: Ingestion

No known significant effects or critical hazards.

Potential Health Effects: Inhalation

Adverse symptoms may include the following: wheezing and breathing difficulties, asthma.

Respiratory Organs Sensitization/Skin Sensitization

No known significant effects or critical hazards.

Generative Cell Mutagenicity

Name	Experiment	Results
tetrachloroisophthalonitrile	Subject: Mammalian-animal	Positive


Carcinogenicity

A: General Product Information

May cause cancer. Risk of cancer depends on duration and level of exposure.

B: Component Carcinogenicity

tetrachloroisophthalonitrile	Nickel titanium trioxide	Cobalt aluminate blue spinel	Cobalt titanate green spinel
IARC: 2B	Reasonably anticipated to be a	IARC: 2B	IARC: 1 (Known to be a human

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	human carcinogen		carcinogen)
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Reproductive Toxicity

Not available.

Specified Target Organ General Toxicity: Single Exposure

Methanol is a category 1 chemical that targets the eyes and nervous system. Synthetic amorphous silica is a category 3 chemical that targets the respiratory tract and causes irritation. Tetrachloroisophthalonitrile is a category 3 chemical that targets the respiratory tract and causes irritation. Cobalt aluminate blue spinel is a category 3 chemical that targets the respiratory tract and causes irritation.

Specified Target Organ General Toxicity: Repeated Exposure

Not available.

Aspiration Respiratory Organs Hazard

Not available.

<p>*** Section 12 – Ecological Information ***</p>

Ecotoxicity

A: General Product Information

Data available upon request.

B: Component Analysis - Ecotoxicity – Aquatic and Terrestrial Toxicity

No information available.

Persistence/Degradability

No information available.

Bioaccumulation


No information available.

Mobility in Soil

No information available.

<p>*** Section 13 – Disposal Considerations ***</p>
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Disposal should be in accordance with applicable regional, national and local laws and regulations.

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Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

***** Section 14 – Transportation Information *****

DOT Information: Reportable quantity: 23,721.7 lbs/10,769.6 kg (2,173.4 gal/8,227.4 L). Package sizes shipped in quantities less than the product reportable quantity are not subject to the reportable quantity transportation requirements.

***** Section 15 – Regulatory Information *****

Regulatory Information

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 313 (40 CFR 372.65) and/or the Clean Air Act (CAA) 112, regulated toxic substances.

SARA Section 311/312 – Hazard Classes

SARA SECTION 313 - SUPPLIER NOTIFICATION


This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372:

- Methanol (67-56-1): 2.09%
- 2-butoxyethanol (111-76-2): 1.28%
- Cobalt aluminate blue spinel (1345-16-0): 0.42%
- Nickel aluminate blue spinel (12035-39-1): 0.42%
- Cobalt titanate green spinel (68186-85-6): 13.21%

California Prop. 65

This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Methanol	No	Yes	No	No
Tetrachloroisophthalonitrile	Yes	No	No	No
Cobalt titanate green spinel	Yes	No	No	No
Nickel titanium trioxide	Yes	No	No	No

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*** * * Section 16 – Other Information * * ***

Disclaimers

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

Language for consideration:

Information presented in this Safety Data Sheet for the product(s) described in Section 1 (“Product”) has been compiled from sources considered to be dependable, accurate, and reliable, but manufacturer/importer does not guarantee the accuracy of any information presented. Except as expressly provided otherwise in a written contract executed by manufacturer/importer, to the fullest extent permitted by applicable law, manufacturer/importer disclaims, and the recipient or user of this safety data sheet (“recipient”) hereby expressly waives, any and all warranties, whether express, implied or statutory, with respect to the product or this safety data sheet, and any results or effect obtained from their use by recipient and/or other users, including, without limitation, any statutory or implied warranties of merchantability or fitness for a particular purpose. Manufacturer/importer specifically, but not by way of limitation, disclaims any and all liability for the use or performance of the product or safety data sheet by recipient, recipient’s customers and/or other users.