



# Safety Data Sheet

Issue Date 02-Jul-2015

Revision Date 02-Jul-2015

Revision Number 5

## 1. IDENTIFICATION

### Product identifier

**Product Code** N446-0000A  
**Product Name** PERMASHIELD CLEAR

### Other means of identification

**Common Name** SERIES 446, PART A  
**UN/ID no.** 1263

### Recommended use of the chemical and restrictions on use

**Recommended Use** industrial paint.  
**Uses advised against** Consumer use, For professional use only. Not for residential use.

### Details of the supplier of the safety data sheet

**Manufacturer Address**  
Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372

### Emergency telephone number

**Company Phone Number** Tnemec Regulatory Dept: 816-474-3400  
**24 Hour Emergency Phone Number** 800-535-5053 (Infotrac)

## 2. HAZARDS IDENTIFICATION

### Classification

#### **OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 2
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1A
Specific target organ toxicity (repeated exposure)	Category 1
Flammable Liquids	Category 3


### Label elements

#### EMERGENCY OVERVIEW

#### **Danger**

#### **Hazard statements**

Causes serious eye irritation  
May cause allergy or asthma symptoms or breathing difficulties if inhaled  
May cause an allergic skin reaction  
May cause genetic defects  
May cause cancer  
Causes damage to organs through prolonged or repeated exposure  
Flammable liquid and vapor



**Appearance** clear
**Physical state** liquid
**Odor** aromatic

**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
- Wash face, hands and any exposed skin thoroughly after handling
- In case of inadequate ventilation wear respiratory protection
- Contaminated work clothing should not be allowed out of the workplace
- Wear protective gloves
- Do not breathe dust/fume/gas/mist/vapors/spray
- Do not eat, drink or smoke when using this product
- Keep away from heat/sparks/open flames/hot surfaces. — No smoking
- Keep container tightly closed
- Ground/bond container and receiving equipment
- Use explosion-proof electrical/ventilating/lighting/mixing/equipment
- Use only non-sparking tools
- Take precautionary measures against static discharge

**Response**

- IF exposed or concerned: Get medical advice/attention
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- If eye irritation persists: Get medical advice/attention
- If skin irritation or rash occurs: Get medical advice/attention
- Wash contaminated clothing before reuse
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- 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 doctor/physician
- In case of fire: Use CO2, dry chemical, or foam for extinction

**Storage**

- Store locked up
- Store in a well-ventilated place. Keep cool
- Keep away from children

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

**Other information**

Cancer hazard. Contains crystalline silica which can cause cancer. (Risk of cancer depends on duration and level of exposure). Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs

SEE SAFETY DATA SHEET

Acute Toxicity

23.1182674 % of the mixture consists of ingredient(s) of unknown toxicity.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No	Weight-%
TALC (RESPIRABLE DUST)	14807-96-6	10 - 30%

TOLUENE DIISOCYANATE (TDI) POL	-	10 - 30%
METHYL N-AMYL KETONE	110-43-0	1 - 10%
TOLUENE DIISOCYANATE (TID) POL	-	1 - 10%
PETROLEUM HYDROCARBON RESIN	64742-16-1	1 - 10%
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	1 - 10%
HYDROCARBONS, C9-UNSATURATED, POLYMERIZED	71302-83-5	1 - 10%
AROMATIC HYDROCARBON MIXTURE	64742-95-6	1 - 10%
ETHYL ACETATE	141-78-6	1 - 10%
1,2,4-TRIMETHYLBENZENE	95-63-6	1 - 10%
1,3,5-TRIMETHYLBENZENE	108-67-8	0.1 - 1%
P-TOLUENESULFONYL ISOCYANATE	4083-64-1	0.1 - 1%
TOLUENE DIISOCYANATE (TDI) MONOMER	584-84-9	0.1 - 1%
CUMENE (SKIN)	98-82-8	0.1 - 1%
ETHYL BENZENE	100-41-4	0.1 - 1%

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

#### 4. FIRST AID MEASURES

##### Description of first aid measures

<b>General advice</b>	If symptoms persist, call a physician.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.
<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
<b>Ingestion</b>	If swallowed, do not induce vomiting. Get medical attention immediately.
<b>Self-protection of the first aider</b>	Use personal protective equipment. Avoid contact with eyes, skin and clothing.

##### Most important symptoms and effects, both acute and delayed

**Notes to physician** Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

##### Suitable extinguishing media

Carbon dioxide. Foam. Dry chemical.

**Unsuitable extinguishing media** Do not use a solid water stream as it may scatter and spread fire.

##### Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapours In the event of fire and/or explosion do not breathe fumes

**Hazardous combustion products** Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds. Carbon oxides. Hydrocarbons. Oxides of nitrogen. Nitrogen oxides (NOx). Sulfur oxides. Hydrogen cyanide.

**Protective equipment and precautions for firefighters**

Use water spray to cool unopened containers. In the event of fire, wear self-contained breathing apparatus. Keep away from heat/sparks/open flames/hot surfaces. MAY CAUSE HEAT AND PRESSURE BUILD-UP IN CLOSED CONTAINERS. Solvent vapors are heavier than air and may spread along floors. Flash back possible over considerable distance.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Avoid contact with eyes, skin and clothing. Use personal protective equipment. Remove all sources of ignition.

**Environmental Precautions**

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

**Methods and material for containment and cleaning up**

**Methods for containment** Remove all sources of ignition. Spills may be collected with inert, absorbent material for proper disposal. Use non-sparking tools, protective gloves, goggles and clothing, adequate ventilation, avoid the breathing of vapors and use respiratory protective devices. Transfer absorbent material to suitable containers for proper disposal.

**Methods for cleaning up** If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Handling** **Use only with adequate ventilation.** Avoid contact with eyes, skin and clothing. Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. When used in a mixture, read the labels and safety data sheets of all components. Wash thoroughly after handling.

**Conditions for safe storage, including any incompatibilities**

**Storage** Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

**Incompatible products** Strong oxidizing agents. Acids. Water, alcohols, amines, strong bases, metal components, surface active materials. Alkalis.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters****Exposure guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
TALC (RESPIRABLE DUST) 14807-96-6	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	1000 mg/m <sup>3</sup>
METHYL N-AMYL KETONE 110-43-0	TWA: 50 ppm	TWA: 100 ppm TWA: 465 mg/m <sup>3</sup>	800 ppm
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	TWA: 0.025 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	50 mg/m <sup>3</sup>

ETHYL ACETATE 141-78-6	TWA: 400 ppm	TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup>	2000 ppm
TOLUENE DIISOCYANATE (TDI) MONOMER 584-84-9	TWA: 0.005 ppm STEL: 0.02 ppm	TWA: 0.005 ppm TWA: 0.04 mg/m <sup>3</sup> STEL: 0.02 ppm STEL: 0.15 mg/m <sup>3</sup> Ceiling: 0.02 ppm Ceiling: 0.14 mg/m <sup>3</sup>	2.5 ppm
CUMENE (SKIN) 98-82-8	TWA: 50 ppm	TWA: 50 ppm TWA: 245 mg/m <sup>3</sup> Skin	900 ppm
ETHYL BENZENE 100-41-4	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m <sup>3</sup> STEL: 125 ppm STEL: 545 mg/m <sup>3</sup>	800 ppm

**Appropriate engineering controls**

**Engineering measures**

Sufficient ventilation, in volume and pattern, should be provided through both local and general exhaust to keep the air contaminant concentration below current applicable OSHA Permissible Exposure Limits (PEL) and ACGIH's Threshold Limit Values (TLV). Appropriate ventilation should be employed to remove hazardous decomposition products formed during welding or flame cutting operations of surfaces coated with this product.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Use chemical resistant splash type goggles. If splashes are likely to occur, wear face-shield.

**Skin and body protection**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Respiratory protection**

Use only with adequate ventilation. Do not breathe vapors, spray mist, or dust. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if air monitoring demonstrates vapor/mist or dust levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during and after application. Follow respirator manufacturer's directions for respirator use. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. INDIVIDUALS WITH LUNG OR BREATHING PROBLEMS OR PRIOR REACTION TO ISOCYANATES MUST NOT BE EXPOSED TO VAPOR OR SPRAY MIST. Do not breathe vapor or spray mist. Wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during and after application unless air monitoring demonstrates vapor/mist levels are below applicable limits. An airline respirator (TC 19C NIOSH/MSHA) is recommended. A vapor-particulate respirator (TC 23C NIOSH/MSHA) may be appropriate where air monitoring demonstrates vapors are less than ten times the applicable exposure limits and the isocyanate concentration is less than its applicable exposure limit. The use of an air-supplied respirator is mandatory whenever the airborne concentration of isocyanate monomer is unknown.

**General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practice. Avoid breathing dust created by cutting, sanding, or grinding.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Physical state</b>	liquid	<b>Odor</b>	aromatic
<b>Appearance</b>	clear	<b>Odor threshold</b>	No information available
<b>Color</b>	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH		No data available
Melting point / freezing point		No data available
Boiling point / boiling range	76 °C / 168.0 °F	
Flash point	29 °C / 84.0 °F	Pensky Martens - Closed Cup
Evaporation rate		No data available
Flammability (solid, gas)		No information available
Flammability Limit in Air		No data available
Upper flammability limit	N/A	
Lower flammability limit	1.1	
Vapor pressure		No data available
Vapor density		No data available
Specific gravity	1.33072	g/cm3
Water solubility	Insoluble in cold water	
Solubility in other solvents		No data available
Partition coefficient: n-octanol/water		No data available
Autoignition temperature		No data available
Decomposition temperature		No data available
Kinematic viscosity		No data available
Dynamic viscosity	285 centipoises	approx

**Other Information**

Density	11.09823 lbs/gal
Volatile organic compounds (VOC) content	2.62004 lbs/gal
Total volatiles weight percent	23.92 %
Total volatiles volume percent	37.33 %

**10. STABILITY AND REACTIVITY****Reactivity**

No data available

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

None under normal processing.

**Conditions to avoid**

Heat, flames and sparks. Amines.

**Incompatible materials**

Strong oxidizing agents, Acids, Water, alcohols, amines, strong bases, metal components, surface active materials, Alkalis

**Hazardous decomposition products**

Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds. Oxides of nitrogen. Carbon oxides. Hydrocarbons. Hydrogen cyanide. Sulfur oxides.

**11. TOXICOLOGICAL INFORMATION****Information on Likely Routes of Exposure****Inhalation**

May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Contains isocyanate monomer. If subject to spray application, engineering and administrative controls must be instituted to maintain an exposure level below .005ppm. If these controls are not adequate, the use of an air-supplied respirator is mandatory. May cause sensitization by inhalation.

<b>Eye contact</b>	Causes serious eye irritation.
<b>Skin contact</b>	Irritating to skin. May cause sensitization of susceptible persons.
<b>Ingestion</b>	Harmful if swallowed.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
METHYL N-AMYL KETONE 110-43-0	= 1600 mg/kg ( Rat ) = 1670 mg/kg ( Rat )	= 12.6 mL/kg ( Rabbit ) = 12600 µL/kg ( Rabbit )	> 2000 ppm ( Rat ) 4 h
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	= 500 mg/kg ( Rat )		
AROMATIC HYDROCARBON MIXTURE 64742-95-6	= 8400 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	= 3400 ppm ( Rat ) 4 h
ETHYL ACETATE 141-78-6	= 5620 mg/kg ( Rat )	> 18000 mg/kg ( Rabbit ) > 20 mL/kg ( Rabbit )	
1,2,4-TRIMETHYLBENZENE 95-63-6	= 3280 mg/kg ( Rat )	> 3160 mg/kg ( Rabbit )	= 18 g/m <sup>3</sup> ( Rat ) 4 h
1,3,5-TRIMETHYLBENZENE 108-67-8	= 5000 mg/kg ( Rat )		= 24 g/m <sup>3</sup> ( Rat ) 4 h
P-TOLUENESULFONYL ISOCYANATE 4083-64-1	= 2234 mg/kg ( Rat )		> 640 ppm ( Rat ) 1 h
TOLUENE DIISOCYANATE (TDI) MONOMER 584-84-9	= 5800 mg/kg ( Rat )	> 16 mL/kg ( Rabbit )	= 14 ppm ( Rat ) 4 h
CUMENE (SKIN) 98-82-8	= 1400 mg/kg ( Rat )	= 12300 µL/kg ( Rabbit )	> 3577 ppm ( Rat ) 6 h = 39000 mg/m <sup>3</sup> ( Rat ) 4 h
ETHYL BENZENE 100-41-4	= 3500 mg/kg ( Rat )	= 15400 mg/kg ( Rabbit )	= 17.2 mg/L ( Rat ) 4 h

#### Information on toxicological effects

**Symptoms** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Skin disorders. Respiratory disorders. Irritating to eyes and skin.

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Chronic Toxicity** NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Cancer hazard. Contains crystalline silica which can cause cancer. (Risk of cancer depends on duration and level of exposure). May cause sensitization by inhalation and skin contact. Substances known to be mutagenic to man. May cause sensitization of susceptible persons. May cause genetic defects.

**Sensitization**

**Mutagenicity**

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	ACGIH	IARC	NTP	OSHA
TALC (RESPIRABLE DUST) 14807-96-6		Group 3		
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	A2	Group 1	Known	X
TOLUENE DIISOCYANATE (TDI) MONOMER 584-84-9		Group 2B		X
CUMENE (SKIN) 98-82-8		Group 2B	Reasonably Anticipated	X
ETHYL BENZENE 100-41-4	A3	Group 2B		X

**Reproductive effects** No information available.

**STOT - single exposure** No information available

**STOT - repeated exposure** Causes damage to organs through prolonged or repeated exposure

**Target organ effects** blood, Central nervous system, Central Vascular System (CVS), Eyes, Lungs, Peripheral Nervous System (PNS), respiratory system, Skin.

**Aspiration hazard** No information available.

**Acute Toxicity**

23.1182674 % of the mixture consists of ingredient(s) of unknown toxicity.

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

55.34462 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Component	Toxicity to algae	Toxicity to fish	Toxicity to daphnia
TALC (RESPIRABLE DUST) 14807-96-6		100: 96 h Brachydanio rerio g/L LC50 semi-static	
METHYL N-AMYL KETONE 110-43-0		126 - 137: 96 h Pimephales promelas mg/L LC50 flow-through	
AROMATIC HYDROCARBON MIXTURE 64742-95-6		9.22: 96 h Oncorhynchus mykiss mg/L LC50	6.14: 48 h Daphnia magna mg/L EC50
ETHYL ACETATE 141-78-6	3300: 48 h Desmodosmus subspicatus mg/L EC50	352 - 500: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 220 - 250: 96 h Pimephales promelas mg/L LC50 flow-through 484: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	560: 48 h Daphnia magna mg/L EC50 Static
1,2,4-TRIMETHYLBENZENE 95-63-6		7.19 - 8.28: 96 h Pimephales promelas mg/L LC50 flow-through	6.14: 48 h Daphnia magna mg/L EC50
1,3,5-TRIMETHYLBENZENE 108-67-8		3.48: 96 h Pimephales promelas mg/L LC50	50: 24 h Daphnia magna mg/L EC50
CUMENE (SKIN) 98-82-8	2.6: 72 h Pseudokirchneriella subcapitata mg/L EC50	2.7: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 6.04 - 6.61: 96 h Pimephales promelas mg/L LC50 flow-through 4.8: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 5.1: 96 h Poecilia reticulata mg/L LC50 semi-static	0.6: 48 h Daphnia magna mg/L EC50 7.9 - 14.1: 48 h Daphnia magna mg/L EC50 Static
ETHYL BENZENE 100-41-4	4.6: 72 h Pseudokirchneriella subcapitata mg/L EC50 438: 96 h Pseudokirchneriella subcapitata mg/L EC50 2.6 - 11.3: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 1.7 - 7.6: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	11.0 - 18.0: 96 h Oncorhynchus mykiss mg/L LC50 static 32: 96 h Lepomis macrochirus mg/L LC50 static 4.2: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 7.55 - 11: 96 h Pimephales promelas mg/L LC50 flow-through 9.6: 96 h Poecilia reticulata mg/L LC50 static 9.1 - 15.6: 96 h Pimephales promelas mg/L LC50 static	1.8 - 2.4: 48 h Daphnia magna mg/L EC50

**Persistence and degradability**

No information available.

**Bioaccumulation**

No information available.

**Mobility in Environmental Media**

Component	log Pow
METHYL N-AMYL KETONE 110-43-0	1.98
ETHYL ACETATE 141-78-6	0.6
1,2,4-TRIMETHYLBENZENE 95-63-6	3.63
CUMENE (SKIN) 98-82-8	3.55
ETHYL BENZENE 100-41-4	3.118

**Other Adverse Effects**

No information available



**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal Methods** Keep container tightly closed. If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations.

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal.

Component	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
ETHYL ACETATE 141-78-6		Included in waste stream: F039		U112
CUMENE (SKIN) 98-82-8				U055
ETHYL BENZENE 100-41-4		Included in waste stream: F039		

Component	CAWAST
ETHYL ACETATE 141-78-6	Toxic Ignitable
TOLUENE DIISOCYANATE (TDI) MONOMER 584-84-9	Ignitable Reactive
CUMENE (SKIN) 98-82-8	Toxic Ignitable
ETHYL BENZENE 100-41-4	Toxic Ignitable

**14. TRANSPORT INFORMATION**

**DOT**

UN/ID no. 1263  
 Proper Shipping Name paint  
 Hazard Class 3  
 Packing Group III  
 Emergency Response Guide Number 128

**IATA**

UN/ID no. 1263  
 Proper Shipping Name paint  
 Hazard Class 3  
 Packing Group III  
 ERG Code 366

**Additional information** Call TNE MEC Traffic Department - 816-474-3400 for additional information or other modes of Transportation.

**15. REGULATORY INFORMATION**

**International Inventories**

TSCA Complies  
 DSL/NDSL Complies  
 EINECS/ELINCS Does not comply  
 ENCS Does not comply  
 IECSC Complies  
 KECL Complies  
 PICCS Does not comply  
 AICS Does not comply

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List  
 EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
 ENCS - Japan Existing and New Chemical Substances  
 IECSC - China Inventory of Existing Chemical Substances  
 KECL - Korean Existing and Evaluated Chemical Substances  
 PICCS - Philippines Inventory of Chemicals and Chemical Substances  
 AICS - Australian Inventory of Chemical Substances

**The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):**

<b>Component</b>	<b>HAPS Data</b>
TOLUENE DIISOCYANATE (TDI) MONOMER	
CUMENE (SKIN)	
ETHYL BENZENE	

**United States of America**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40n of the Code of Federal Regulations, Part 372:

Component	SARA 313 - Threshold Values
1,2,4-TRIMETHYLBENZENE - 95-63-6	1.0
TOLUENE DIISOCYANATE (TDI) MONOMER - 584-84-9	0.1 1.0
CUMENE (SKIN) - 98-82-8	1.0
ETHYL BENZENE - 100-41-4	0.1

**SARA 311/312 Hazardous**

**Categorization**

<b>Acute Health Hazard</b>	Yes
<b>Chronic Health Hazard</b>	Yes
<b>Fire Hazard</b>	Yes
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	No

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
ETHYL BENZENE 100-41-4	1000 lb	X	X	X

**CERCLA**

Component	Hazardous Substances RQs	CERCLA EHS RQs	RQ
ETHYL ACETATE 141-78-6	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
TOLUENE DIISOCYANATE (TDI) MONOMER 584-84-9	100 lb	100 lb	RQ 100 lb final RQ RQ 45.4 kg final RQ
CUMENE (SKIN) 98-82-8	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
ETHYL BENZENE 100-41-4	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

**United States of America**

**California Prop. 65**

WARNING! This product contains a chemical known in the State of California to cause cancer

Component	California Prop. 65
CRYSTALLINE SILICA (QUARTZ) - 14808-60-7	Carcinogen
CUMENE (SKIN) - 98-82-8	Carcinogen
ETHYL BENZENE - 100-41-4	Carcinogen

**California SCAQMD Rule 443**

Contains Photochemically Reactive Solvent

**State Right-to-Know**

Component	New Jersey	Massachusetts	Pennsylvania
TALC (RESPIRABLE DUST) 14807-96-6	X	X	X
METHYL N-AMYL KETONE 110-43-0	X	X	X
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	X	X	X
ETHYL ACETATE 141-78-6	X	X	X
1,2,4-TRIMETHYLBENZENE 95-63-6	X	X	X
1,3,5-TRIMETHYLBENZENE 108-67-8		X	
TOLUENE DIISOCYANATE (TDI) MONOMER 584-84-9	X	X	X
CUMENE (SKIN) 98-82-8	X	X	X
ETHYL BENZENE 100-41-4	X	X	X

**16. OTHER INFORMATION****NFPA**

Health 3

Flammability 3

Instability 2

Physical hazard \*

**HMIS (Hazardous  
Material Information  
System)**

Health 3\*

Flammability 3

Reactivity 2

**Prepared By**

Tnemec Regulatory Dept: 816-474-3400

**Revision Date**

02-Jul-2015

**Revision Summary**

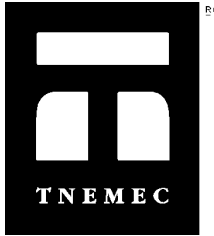
9 4 5 7 10 8 11 14

**Disclaimer**

For specific information regarding occupational safety and health standards, please refer to the Code of Federal Regulations, Title 29, Part 1910.

To the best of our knowledge, the information contained herein is accurate. However, neither the Tnemec Company or any of its subsidiaries assume any liability whatsoever for the accuracy of completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

**End of MSDS**



# Safety Data Sheet

Issue Date 06-Jul-2015

Revision Date 06-Jul-2015

Revision Number 9

## 1. IDENTIFICATION

### Product identifier

**Product Code** N446-1221B  
**Product Name** PERMASHIELD BLACK

### Other means of identification

**Common Name** SERIES 446, PART B

### Recommended use of the chemical and restrictions on use

**Recommended Use** industrial paint.  
**Uses advised against** Consumer use, For professional use only. Not for residential use.

### Details of the supplier of the safety data sheet

#### **Manufacturer Address**

Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372

### Emergency telephone number

**Company Phone Number** Tnemec Regulatory Dept: 816-474-3400  
**24 Hour Emergency Phone Number** 800-535-5053 (Infotrac)

## 2. HAZARDS IDENTIFICATION

### Classification

#### **OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Vapors)	Category 4
Skin sensitization	Category 1
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 1


### Label elements

#### EMERGENCY OVERVIEW

#### **Danger**

#### **Hazard statements**

Harmful if inhaled  
May cause an allergic skin reaction  
May cause genetic defects  
May cause cancer  
Causes damage to organs through prolonged or repeated exposure

		
<b>Appearance</b> opaque	<b>Physical state</b> liquid	<b>Odor</b> aromatic

**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  
 Use only outdoors or in a well-ventilated area  
 Contaminated work clothing should not be allowed out of the workplace  
 Wear protective gloves  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product

**Response**

IF exposed or concerned: Get medical advice/attention  
 IF ON SKIN: Wash with plenty of soap and water  
 If skin irritation or rash occurs: Get medical advice/attention  
 Wash contaminated clothing before reuse  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

**Storage**

Store locked up  
 Keep away from children

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

If product is in liquid or paste form, physical or health hazards listed related to dust are not considered significant. However, product may contain substances that could be potential hazards if caused to become airborne due to grinding, sanding or other abrasive processes.

**Other information**

Cancer hazard. Contains crystalline silica which can cause cancer. (Risk of cancer depends on duration and level of exposure).  
 Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs

SEE SAFETY DATA SHEET

Acute Toxicity 59.68114 % of the mixture consists of ingredient(s) of unknown toxicity.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight-%
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	10 - 30%
IRON OXIDE FUME	1317-61-9	10 - 30%
COAL FIRED FLY ASH BI-PRODUCT	68131-74-8	10 - 30%
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	0.1 - 1%

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

### 4. FIRST AID MEASURES

**Description of first aid measures**

<b>General advice</b>	If symptoms persist, call a physician.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. Oxygen or artificial respiration if needed.
<b>Ingestion</b>	If swallowed, do not induce vomiting. Get medical attention immediately.
<b>Self-protection of the first aider</b>	Use personal protective equipment. Avoid contact with eyes, skin and clothing.

**Most important symptoms and effects, both acute and delayed**

**Notes to physician** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****Suitable extinguishing media**

Carbon dioxide. Foam. Dry chemical.

**Unsuitable extinguishing media** Do not use a solid water stream as it may scatter and spread fire.

**Specific hazards arising from the chemical**

Thermal decomposition can lead to release of irritating gases and vapours In the event of fire and/or explosion do not breathe fumes

**Hazardous combustion products** Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds. Carbon oxides. Hydrocarbons.

**Protective equipment and precautions for firefighters**

Use water spray to cool unopened containers. In the event of fire, wear self-contained breathing apparatus. Keep away from heat/sparks/open flames/hot surfaces. MAY CAUSE HEAT AND PRESSURE BUILD-UP IN CLOSED CONTAINERS.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Avoid contact with eyes, skin and clothing. Use personal protective equipment. Remove all sources of ignition.

**Environmental Precautions**

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

**Methods and material for containment and cleaning up**

**Methods for containment** Remove all sources of ignition. Spills may be collected with inert, absorbent material for proper disposal. Use non-sparking tools, protective gloves, goggles and clothing, adequate ventilation, avoid the breathing of vapors and use respiratory protective devices. Transfer absorbent material to suitable containers for proper disposal.

**Methods for cleaning up** If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** **Use only with adequate ventilation.** Avoid contact with eyes, skin and clothing. Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. When used in a mixture, read the labels and safety data sheets of all components. Wash thoroughly after handling.

### Conditions for safe storage, including any incompatibilities

**Storage** Close container after each use. Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

**Incompatible products** Strong oxidizing agents. Acids.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	TWA: 0.025 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	50 mg/m <sup>3</sup>
COAL FIRED FLY ASH BI-PRODUCT 68131-74-8	TWA: 1 mg/m <sup>3</sup>	-	100 mg/m <sup>3</sup> 10 mg/m <sup>3</sup>
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	TWA: 0.025 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	50 mg/m <sup>3</sup>

### Appropriate engineering controls

**Engineering measures** Sufficient ventilation, in volume and pattern, should be provided through both local and general exhaust to keep the air contaminant concentration below current applicable OSHA Permissible Exposure Limits (PEL) and ACGIH's Threshold Limit Values (TLV). Appropriate ventilation should be employed to remove hazardous decomposition products formed during welding or flame cutting operations of surfaces coated with this product.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Safety glasses with side-shields

**Skin and body protection** Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Respiratory protection** Use only with adequate ventilation. Do not breathe vapors, spray mist, or dust. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if air monitoring demonstrates vapor/mist or dust levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during and after application. Follow respirator manufacturer's directions for respirator use.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice. Avoid breathing dust created by cutting, sanding, or grinding.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties





**Skin contact** Harmful in contact with skin. May cause sensitization by skin contact.

**Ingestion** Harmful if swallowed.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	= 500 mg/kg ( Rat )		
IRON OXIDE FUME 1317-61-9	> 10000 mg/kg ( Rat )		
COAL FIRED FLY ASH BI-PRODUCT 68131-74-8	> 2000 mg/kg ( Rat )		
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	= 500 mg/kg ( Rat )		

**Information on toxicological effects**

**Symptoms** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Skin disorders. Irritating to eyes and skin.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Chronic Toxicity** NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Cancer hazard. Contains crystalline silica which can cause cancer. (Risk of cancer depends on duration and level of exposure). Substances known to be mutagenic to man. Skin sensitizer.

**Sensitization** May cause sensitization of susceptible persons.

**Mutagenicity** May cause genetic defects.

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	ACGIH	IARC	NTP	OSHA
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	A2	Group 1	Known	X
COAL FIRED FLY ASH BI-PRODUCT 68131-74-8		Group 1	Known	
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	A2	Group 1	Known	X

**Reproductive effects** No information available.

**STOT - single exposure** No information available

**STOT - repeated exposure** Causes damage to organs through prolonged or repeated exposure

**Target organ effects** Gastrointestinal tract, Eyes, liver, Lungs, respiratory system, Skin, kidney, Nasal Cavities.

**Aspiration hazard** Based on product level data, this product does not meet the requirement to be classified as an aspiration hazard. However, this product contains an ingredient that may cause aspiration if swallowed.

**Acute Toxicity** 59.68114 % of the mixture consists of ingredient(s) of unknown toxicity.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

56.579079 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Component	Toxicity to algae	Toxicity to fish	Toxicity to daphnia
COAL FIRED FLY ASH BI-PRODUCT 68131-74-8			140 - 2000: 24 h Daphnia magna mg/L EC50

**Persistence and degradability**

No information available.

**Bioaccumulation**

No information available.

**Mobility in Environmental Media**

**Other Adverse Effects**

No information available

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal Methods**

Keep container tightly closed. If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations.

**Contaminated packaging**

Empty containers should be taken to an approved waste handling site for recycling or disposal.

Component	CAWAST
COAL FIRED FLY ASH BI-PRODUCT 68131-74-8	Toxic Corrosive

**14. TRANSPORT INFORMATION**

**DOT**

**Proper Shipping Name**                      paint in oil

**IATA**

**Proper Shipping Name**                      Not regulated

**Additional information**

Call TNE MEC Traffic Department - 816-474-3400 for additional information or other modes of Transportation.

**15. REGULATORY INFORMATION**

**International Inventories**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Does not comply
<b>ENCS</b>	Does not comply
<b>IECSC</b>	Does not comply
<b>KECL</b>	Does not comply
<b>PICCS</b>	Does not comply
<b>AICS</b>	Does not comply

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):**

**Component**  
COAL FIRED FLY ASH BI-PRODUCT

**HAPS Data**

**United States of America**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40n of the Code of Federal Regulations, Part 372:

Component	SARA 313 - Threshold Values
COAL FIRED FLY ASH BI-PRODUCT - 68131-74-8	1.0 0.1

**SARA 311/312 Hazardous**

**Categorization**

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
COAL FIRED FLY ASH BI-PRODUCT 68131-74-8		X		

**CERCLA**

**United States of America**

**California Prop. 65**

WARNING! This product contains a chemical known in the State of California to cause cancer

Component	California Prop. 65
CRYSTALLINE SILICA (QUARTZ) - 14808-60-7	Carcinogen
COAL FIRED FLY ASH BI-PRODUCT - 68131-74-8	Carcinogen
CRYSTALLINE SILICA (QUARTZ) - 14808-60-7	Carcinogen

**California SCAQMD Rule 443**

Does Not Contain Photochemically Reactive Solvent

**State Right-to-Know**

Component	New Jersey	Massachusetts	Pennsylvania
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	X	X	X
COAL FIRED FLY ASH BI-PRODUCT 68131-74-8	X		X
CRYSTALLINE SILICA (QUARTZ) 14808-60-7	X	X	X

**16. OTHER INFORMATION**

<b>NFPA</b>	Health 2	Flammability 0	Instability 1	Physical hazard *
<b>HMIS (Hazardous Material Information System)</b>	Health 2*	Flammability 0	Reactivity 1	

Prepared By	Tnemec Regulatory Dept: 816-474-3400
Revision Date	06-Jul-2015
Revision Summary	
9 2 4 5 7 10 11 14 15	

**Disclaimer**

For specific information regarding occupational safety and health standards, please refer to the Code of Federal Regulations, Title 29, Part 1910.

To the best of our knowledge, the information contained herein is accurate. However, neither the Tnemec Company or any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

**End of MSDS**