Material Safety Data Sheet

Print Date 09-Oct-2012 **Revision Date** 09-Oct-2012 **Revision Number** 3

1. PRODUCT AND COMPANY IDENTIFICATION

Common name	SERIES 530
Product code	F530-1201
Trade name	OMNITHANE ALUMINUM
Product Class	POLYMERIC DIISOCYANATE PAINT
Manufacturer	Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372
Emergency telephone	800-535-5053 (INFOTRAC) - TNEMEC REGULATORY DEPT: 816-474-3400

2. HAZARDS IDENTIFICATION

Emergency Overview

DANGER!

HARMFUL OR FATAL IF SWALLOWED
HARMFUL IF INHALED
COMBUSTIBLE LIQUID AND VAPOR
MAY CAUSE LUNG INJURY
MAY CAUSE ALLERGIC RESPIRATORY REACTION; EFFECTS MAY BE PERMANENT
MAY CAUSE ALLERGIC SKIN REACTION; EFFECTS MAY BE PERMANENT
MAY AFFECT THE BRAIN OR NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA
MAY CAUSE EYE, SKIN, NOSE, THROAT AND RESPIRATORY TRACT IRRITATION.

Potential health effects

Principle Routes of Exposure Eye contact, Inhalation, Skin contact.

Acute effects

Eyes	Moderately irritating to the eyes. Risk of serious damage to eyes.
Skin	Irritating to skin. May cause sensitization by skin contact.
Inhalation	Irritating to respiratory system. May cause allergic respiratory reaction.
Ingestion	May be harmful if swallowed.

Chronic effects

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. 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.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions Central nervous system. Kidney disorders. Skin disorders. Respiratory disorders.

Interactive effects Use of alcoholic beverages may enhance toxic effects.

Potential environmental effects See Section 12 for additional Ecological Information.

Target Organ Effects Blood, Central nervous system, Eyes, Kidney, Respiratory system, Skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No	Weight %
DIPHENYLMETHANE DIISOCYANATE (MDI) POLYMER	-	30 - 60
ALUMINUM FLAKE	7429-90-5	10 - 30
AROMATIC HYDROCARBON MIXTURE	64742-95-6	10 - 30
1,2,4-TRIMETHYLBENZENE	95-63-6	10 - 30
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	101-68-8	5 - 10
MINERAL SPIRITS (STODDARD SOLVENT)	8052-41-3	5 - 10
1,3,5-TRIMETHYLBENZENE	108-67-8	1 - 5
SILANE, DICHLORODIMETHYL-, REACTION PRODUCTS WITH SILICA	68611-44-9	1 - 5
DIETHYLBENZENE	25340-17-4	0.1 - 1
DIMETHYLBENZENE	-	0.1 - 1
CUMENE (SKIN)	98-82-8	0.1 - 1
ETHYL BENZENE	100-41-4	0.1 - 1
DIPHENYLMETHANE DIISOCYANATE (VOLATILE MONOMER)	101-68-8	< 0.1
DIISOBUTYL KETONE	108-83-8	< 0.1
4,6-DIMETHYL-2-HEPTANONE	19549-80-5	< 0.1
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	< 0.1

4. FIRST AID MEASURES

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes.

Skin contact: Wash off immediately with soap and plenty of water.

Ingestion: If swallowed, do not induce vomiting. Get medical attention immediately.

Inhalation: Move to fresh air. Oxygen or artificial respiration if needed.

5. FIRE-FIGHTING MEASURES

Flammable properties Combustible material.

Suitable extinguishing media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Contact with water may cause violent frothing. Use: Carbon dioxide (CO2) - Foam - Dry chemical

Hazardous decomposition products Oxides of carbon, hydrocarbons. Oxides of nitrogen. Hydrogen cyanide. Oxides of Aluminum.

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.

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

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

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.

Other information Not applicable

7. HANDLING AND STORAGE

Handling
Close container after each use. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. If splashes are likely to occur, wear goggles. Wear protective gloves/clothing. Do not burn, or use a cutting torch on, the empty drum. When used in a mixture, read the labels and safety data sheets of all components. Wash thoroughly after handling.

Storage
Keep away from heat, sparks and flame. Use only in an area containing flame proof equipment. Prevent build-up of vapors by opening all windows and doors to achieve cross ventilation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	Quebec TWAEV	Ontario TWAEV	Mexico OEL (TWA)
ALUMINUM FLAKE	TWA: 1 mg/m³	TWA: 15 mg/m³ TWA: 5 mg/m³	TWA: 10 mg/m³ TWA: 5 mg/m³	TWA: 1 mg/m³	TWA: 10 mg/m³ TWA: 5 mg/m³
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	TWA: 0.005 ppm	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m³	TWA: 0.005 ppm TWA: 0.051 mg/m³	TWA: 0.005 ppm CEV: 0.02 ppm	
MINERAL SPIRITS (STODDARD SOLVENT)	TWA: 100 ppm	TWA: 100 ppm TWA: 525 mg/m³ TWA: 500 ppm TWA: 2900 mg/m³	TWA: 100 ppm TWA: 525 mg/m³	TWA: 525 mg/m³	TWA: 100 ppm TWA: 523 mg/m³ STEL: 200 ppm STEL: 1050 mg/m³
DIMETHYLBENZENE	TWA: 100 ppm STEL: 150 ppm	TWA: 100 ppm TWA: 435 mg/m³ STEL: 150 ppm STEL: 655 mg/m³	TWA: 100 ppm TWA: 434 mg/m³ STEL: 150 ppm STEL: 651 mg/m³	TWA: 100 ppm STEL: 150 ppm	TWA: 100 ppm TWA: 435 mg/m³ STEL: 150 ppm STEL: 655 mg/m³
CUMENE (SKIN)	TWA: 50 ppm	TWA: 50 ppm TWA: 245 mg/m³ Skin	TWA: 50 ppm TWA: 246 mg/m³	TWA: 50 ppm	TWA: 50 ppm TWA: 245 mg/m³ STEL: 75 ppm STEL: 365 mg/m³
ETHYL BENZENE	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m³ STEL: 125 ppm STEL: 545 mg/m³	TWA: 100 ppm TWA: 434 mg/m³ STEL: 125 ppm STEL: 543 mg/m³	TWA: 100 ppm STEL: 125 ppm	TWA: 100 ppm TWA: 435 mg/m³ STEL: 125 ppm STEL: 545 mg/m³
DIPHENYLMETHANE DIISOCYANATE (VOLATILE MONOMER)	TWA: 0.005 ppm	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m³	TWA: 0.005 ppm TWA: 0.051 mg/m³	TWA: 0.005 ppm CEV: 0.02 ppm	

DIISOBUTYL KETONE	TWA: 25 ppm	TWA: 25 ppm TWA: 150 mg/m³ TWA: 50 ppm TWA: 290 mg/m³	TWA: 25 ppm TWA: 145 mg/m³	TWA: 25 ppm	TWA: 25 ppm TWA: 145 mg/m³
CRYSTALLINE SILICA (QUARTZ)	TWA: 0.025 mg/m³	TWA: 0.1 mg/m³	TWA: 0.1 mg/m³	TWA: 0.10 mg/m³	TWA: 0.1 mg/m³

Engineering measures Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment

Skin protection Lightweight protective clothing, Apron, Impervious gloves

Eye/face protection Safety glasses with side-shields

Respiratory protection 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

Flash point	38 °C / 100.0 °F
Boiling range	No information available
Upper explosion limit	No information available
Lower explosion limit	No information available
Evaporation rate	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific Gravity	1.11038 g/cm3
Density	9.24001 lbs/gal
Volatile organic compounds (VOC) content	3.410 lbs/gal
Volatile by weight	36.9080 %
Volatile by volume	48.1769 %

10. STABILITY AND REACTIVITY

Chemical stability Stable.

Conditions to avoid Heat, flames and sparks. Amines. Contact with water liberates highly flammable gases.

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

Possibility of hazardous reactions None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
DIPHENYLMETHANE DIISOCYANATE (MDI) POLYMER			490 mg/m³, 4h (rat)
AROMATIC HYDROCARBON MIXTURE	8400 mg/kg (Rat)	2000 mg/kg (Rabbit)	3400 ppm (Rat) 4 h 5.2 mg/L (Rat) 4 h
1,2,4-TRIMETHYLBENZENE	3400 mg/kg (Rat)	3160 mg/kg (Rabbit)	18 g/m³ (Rat) 4 h
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	9200 mg/kg (Rat)		
1,3,5-TRIMETHYLBENZENE	5000 mg/kg (Rat)		24 g/m³ (Rat) 4 h
DIMETHYLBENZENE	4300 mg/kg (Rat)	1700 mg/kg (Rabbit)	47635 mg/L (Rat) 4 h 5000 ppm (Rat) 4 h
CUMENE (SKIN)	1400 mg/kg (Rat)	3160 mg/kg (Rabbit)	39000 mg/m³ (Rat) 4 h
ETHYL BENZENE	3500 mg/kg (Rat)	15354 mg/kg (Rabbit)	17.2 mg/L (Rat) 4 h
DIPHENYLMETHANE DIISOCYANATE (VOLATILE MONOMER)	9200 mg/kg (Rat)		
DIISOBUTYL KETONE	5750 mg/kg (Rat)	16 g/kg (Rabbit)	2300 ppm (Rat) 4 h
CRYSTALLINE SILICA (QUARTZ)	500 mg/kg (Rat)		

Irritation No information available
Corrosivity No information available.
Sensitization No information available.

Chronic toxicity

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

Component	ACGIH	IARC	NTP	OSHA	Mexico
CUMENE (SKIN)		Group 2B		X	
ETHYL BENZENE	A3	Group 2B		X	
CRYSTALLINE SILICA (QUARTZ)	A2	Group 1	Known	X	

Mutegenicity No information available.
Reproductive effects No information available.
Developmental effects No information available.
Teratogenicity No information available.
Target Organ Effects Blood, Central nervous system, Eyes, Kidney, Respiratory system, Skin.
Endocrine Disruptor Information No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Component	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia
AROMATIC HYDROCARBON MIXTURE		LC50= 9.22 mg/L Oncorhynchus mykiss 96 h		EC50 = 6.14 mg/L 48 h
1,2,4-TRIMETHYLBENZENE		LC50 7.19 - 8.28 mg/L Pimephales promelas 96 h		EC50 = 6.14 mg/L 48 h
1,3,5-TRIMETHYLBENZENE		LC50= 3.48 mg/L Pimephales promelas 96 h		EC50 = 50 mg/L 24 h

DIMETHYLBENZENE		LC50 13.1 - 16.5 mg/L Lepomis macrochirus 96 h LC50 13.5 - 17.3 mg/L Oncorhynchus mykiss 96 h LC50 2.661 - 4.093 mg/L Oncorhynchus mykiss 96 h LC50 23.53 - 29.97 mg/L Pimephales promelas 96 h LC50 30.26 - 40.75 mg/L Poecilia reticulata 96 h LC50 7.711 - 9.591 mg/L Lepomis macrochirus 96 h LC50= 13.4 mg/L Pimephales promelas 96 h LC50= 19 mg/L Lepomis macrochirus 96 h LC50= 780 mg/L Cyprinus carpio 96 h LC50> 780 mg/L Cyprinus carpio 96 h	EC50 = 0.0084 mg/L 24 h	LC50 = 0.6 mg/L 48 h EC50 = 3.82 mg/L 48 h
CUMENE (SKIN)	EC50 = 2.6 mg/L 72 h	LC50 6.04 - 6.61 mg/L Pimephales promelas 96 h LC50= 2.7 mg/L Oncorhynchus mykiss 96 h LC50= 4.8 mg/L Oncorhynchus mykiss 96 h LC50= 5.1 mg/L Poecilia reticulata 96 h	EC50 = 0.89 mg/L 5 min EC50 = 1.10 mg/L 15 min EC50 = 1.48 mg/L 30 min EC50 = 172 mg/L 24 h	EC50 7.9 - 14.1 mg/L 48 h EC50 = 0.6 mg/L 48 h
ETHYL BENZENE	EC50 = 4.6 mg/L 72 h EC50 > 438 mg/L 96 h EC50 2.6 - 11.3 mg/L 72 h EC50 1.7 - 7.6 mg/L 96 h	LC50 11.0 - 18.0 mg/L Oncorhynchus mykiss 96 h LC50 7.55 - 11 mg/L Pimephales promelas 96 h LC50 9.1 - 15.6 mg/L Pimephales promelas 96 h LC50= 32 mg/L Lepomis macrochirus 96 h LC50= 4.2 mg/L Oncorhynchus mykiss 96 h LC50= 9.6 mg/L Poecilia reticulata 96 h	EC50 = 9.68 mg/L 30 min EC50 = 96 mg/L 24 h	EC50 1.8 - 2.4 mg/L 48 h
DIISOBUTYL KETONE	EC50 = 100 mg/L 96 h	LC50= 140 mg/L Oncorhynchus mykiss 96 h		

13. DISPOSAL CONSIDERATIONS

Waste 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 for local recycling, recovery or waste disposal.

14. TRANSPORT INFORMATION

DOT Ground Transportation Only. Call TNEMEC Traffic Department - 816-474-3400 for other modes of Transportation.

Proper shipping name PAINT IN OIL

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Does not Comply
CHINA	Complies
ENCS	Does not Comply
KECL	Complies
PICCS	Does not Comply
AICS	Complies

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

Component	HAPS Data
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	
DIMETHYLBENZENE	
CUMENE (SKIN)	
ETHYL BENZENE	
DIPHENYLMETHANE DIISOCYANATE (VOLATILE MONOMER)	

United States of America Federal Regulations

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values
ALUMINUM FLAKE	7429-90-5	10 - 30	1.0
1,2,4-TRIMETHYLBENZENE	95-63-6	10 - 30	1.0
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	101-68-8	5 - 10	1.0
DIMETHYLBENZENE		0.1 - 1	1.0
CUMENE (SKIN)	98-82-8	0.1 - 1	1.0
ETHYL BENZENE	100-41-4	0.1 - 1	0.1
DIPHENYLMETHANE DIISOCYANATE (VOLATILE MONOMER)	101-68-8	< 0.1	1.0

SARA 311/312 Hazardous Categorization

Chronic Health Hazard	yes
Acute Health Hazard	yes
Fire Hazard	yes
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
DIMETHYLBENZENE (0.1 - 1)	100 lb			X
ETHYL BENZENE 100-41-4 (0.1 - 1)	1000 lb	X	X	X

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	5000 lb	
DIMETHYLBENZENE	100 lb	
CUMENE (SKIN)	5000 lb	
ETHYL BENZENE	1000 lb	
DIPHENYLMETHANE DIISOCYANATE (VOLATILE MONOMER)	5000 lb	

United States of America State Regulations

California Prop. 65
This product contains the following Proposition 65 chemicals:

Component	CAS-No	California Prop. 65
CUMENE (SKIN)	98-82-8	Carcinogen
ETHYL BENZENE	100-41-4	Carcinogen
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	Carcinogen

California SCAQMD Rule 443
Contains Photochemically Reactive Solvent

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
ALUMINUM FLAKE	X	X	X		
1,2,4-TRIMETHYLBENZENE	X	X	X	X	
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	X	X	X		
MINERAL SPIRITS (STODDARD SOLVENT)	X	X	X		
1,3,5-TRIMETHYLBENZENE	X				
DIETHYLBENZENE		X			
DIMETHYLBENZENE	X	X	X	X	
CUMENE (SKIN)	X	X	X	X	
ETHYL BENZENE	X	X	X	X	
DIPHENYLMETHANE DIISOCYANATE (VOLATILE MONOMER)	X	X	X		
DIISOBUTYL KETONE	X	X	X		
CRYSTALLINE SILICA (QUARTZ)	X	X	X		

Other international regulations

Canada

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

WHMIS Classification
B3 Combustible liquid
D2A Very toxic materials

Component	NPRI
ALUMINUM FLAKE	Part 1, Group 1 Substance (dust or fume)
AROMATIC HYDROCARBON MIXTURE	Part 5 Substance
1,2,4-TRIMETHYLBENZENE	Part 1, Group 1 Substance; Part 5 Substance
DIPHENYLMETHANE DIISOCYANATE (MDI) REACTIVE MONOMER	Part 1, Group 1 Substance
MINERAL SPIRITS (STODDARD SOLVENT)	Part 5 Substance
DIMETHYLBENZENE	Part 1, Group 1 Substance; Part 5 Substance

CUMENE (SKIN)	Part 1, Group 1 Substance
ETHYL BENZENE	Part 1, Group 1 Substance
DIPHENYLMETHANE DIISOCYANATE (VOLATILE MONOMER)	Part 1, Group 1 Substance

Legend
NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Revision Date 09-Oct-2012

Revision Note No information available

HMIS (Hazardous Material Information System) **Health** 3* **Flammability** 2 **Reactivity** 2

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