



Material Safety Data Sheet

Print Date 16-May-2011

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Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

Common name SERIES C680
Product code C680-NOPG
Trade name MARK A WAY
Product Class CLEANING SOLVENT

Manufacturer Tnemec Company, Inc. 6800 Corporate Drive, Kansas City, MO 64120-1372
Emergency telephone 800-535-5053 (INFOTRAC) - TNE MEC REGULATORY DEPT: 816-474-3400

2. HAZARDS IDENTIFICATION

Emergency Overview

WARNING!

COMBUSTIBLE LIQUID AND VAPOR.
HARMFUL IF INHALED.
HARMFUL OR FATAL IF SWALLOWED.
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.
Skin Irritating to skin.
Inhalation Irritating to respiratory system.
Ingestion May be harmful if swallowed. Do not induce vomiting: may contain petroleum distillates and/or aromatic solvents. Aspiration may cause pulmonary edema and pneumonitis.

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.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions No information available

Interactive effects No information available

Potential environmental effects See Section 12 for additional Ecological Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Component	CAS-No	Weight %
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d-LIMONENE	5989-27-5	60 - 100
METHYL-N-2-PYRROLIDONE	872-50-4	10 - 30
DIETHANOLAMINE	111-42-2	0.1 - 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 (CO ₂) - Foam - Dry chemical
Hazardous decomposition products	Oxides of carbon, hydrocarbons. Oxides of nitrogen.

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

Avoid contact with skin, eyes 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.

Storage

Close container after each use. 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)
METHYL-N-2-PYRROLIDONE				TWA: 400 mg/m ³ TWA	
DIETHANOLAMINE	: 1 mg/m ³ TWA (inhalable fraction and vapor) Skin	: 3 ppm TWA; 15 mg/m ³ TWA	TWA: 3 ppm TWAEV; 13 mg/m ³ TWAEV Skin	TWA: 1 mg/m ³ TWA Skin	

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

Use only with adequate ventilation. Do not breathe dust, vapors or spray mist. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if air monitoring demonstrates vapor/mist levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH 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

Flash point	46°C / 115.0°F
Boiling range	171 - 202°C / 339.0 - 396.0°F
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	.86042 g/cm ³
Density	7.15999 lbs/gal
Volatile organic compounds (VOC) content	7.160 lbs/gal
Volatile by weight	100.0000 %
Volatile by volume	100.0000 %

10. STABILITY AND REACTIVITY

Chemical stability	Stable.	Conditions to avoid	Heat, flames and sparks.
Incompatible products	Strong oxidizing agents. Acids. Alkalines.	Possibility of hazardous reactions	None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute toxicity

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Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
d-LIMONENE	4400 mg/kg (Rat)	2000 mg/kg (Rabbit)	
METHYL-N-2-PYRROLIDONE	3598 mg/kg (Rat)	2500 mg/kg (Rat) 2000 mg/kg (Rabbit)	3.1 mg/L (Rat) 4 h
DIETHANOLAMINE	620 µL/kg (Rat)	7640 µL/kg (Rabbit)	

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
DIETHANOLAMINE	A3				

Mutagenicity	No information available
Reproductive effects	No information available
Developmental effects	No information available
Teratogenicity	No information available
Target Organ Effects	No information available
Endocrine Disruptor Information	No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Component	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia
d-LIMONENE		LC50 0.619-0.796 mg/L Pimephales promelas 96 h LC50= 35 mg/L Oncorhynchus mykiss 96 h		
METHYL-N-2-PYRROLIDONE	EC50 > 500 mg/L 72 h	LC50= 1072 mg/L Pimephales promelas 96 h LC50= 1400 mg/L Poecilia reticulata 96 h LC50= 4000 mg/L Leuciscus idus 96 h LC50= 832 mg/L Lepomis macrochirus 96 h		EC50 = 4897 mg/L 48 h
DIETHANOLAMINE	EC50 = 7.8 mg/L 72 h EC50 2.1 - 2.3 mg/L 96 h	LC50 1200-1580 mg/L Pimephales promelas 96 h LC50 4460-4980 mg/L Pimephales promelas 96 h LC50 600-1000 mg/L Lepomis macrochirus 96 h	EC50 = 73 mg/L 5 min EC50 > 16 mg/L 16 h	EC50 = 55 mg/L 48 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 & RELATED MATERIAL-(NMFC 149980 SUB2)

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
CHINA	Complies
ENCS	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

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

Component
DIETHANOLAMINE

United States of America Federal RegulationsSARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values
METHYL-N-2-PYRROLIDONE	872-50-4	10 - 30	1.0 % de minimis concentration
DIETHANOLAMINE	111-42-2	0.1 - 1	1.0 % de minimis concentration

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

CERCLAUnited States of America State RegulationsCalifornia Prop. 65

This product contains the following Proposition 65 chemicals:

Component	CAS-No	California Prop. 65
METHYL-N-2-PYRROLIDONE	872-50-4	Developmental

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island

METHYL-N-2-PYRROLIDONE	X	X	X		
DIETHANOLAMINE	X	X	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
D2B Toxic materials



Component	NPRI
d-LIMONENE	Part 5 Substance
METHYL-N-2-PYRROLIDONE	Part 1, Group 1 Substance
DIETHANOLAMINE	Part 1, Group 1 Substance

Legend

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Revision Date 16-May-2011

Revision Note No information available

HMIS (Hazardous Material Information System) Health 2 Flammability 2 Reactivity 1

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