



since 1895

Material Safety Data Sheet

NFPA	WHMIS	PPE	Transport Symbol
			Not regulated, non-bulk

Preparation Date 13-Oct-2010

Revision Date

Revision Number 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name White-Knight® Plus Metal Primer-Part A
Product Code 7842 A
UN-No UN1263
Contact Manufacturer
 The Garland Company, Inc. 3800 East 91st. Street
 Cleveland, Ohio 44105-2197
 Ph: (800) 762-8225 Fax: (216) 641-0633
 Garland Canada, Inc. 1296 Martin Grove Rd.
 Toronto, Ontario M9W 4X3
 Ph: (416)747-7995 Fax: (416)747-1980

Emergency Telephone Number 1-800-762-8225 (24 Hrs.)

2. HAZARDS IDENTIFICATION

Emergency Overview

Flammable

Appearance Clear.

Physical State Liquid.

Odor Aromatic.

Mexico - Grade Not available

Potential Health Effects

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

Acute Effects

Eyes

Eye contact causes severe irritation, redness, tearing and blurred vision. May cause redness, tearing and itching.

Skin	Isocyanates react with skin protein and moisture and can cause irritation. Prolonged contact can cause reddening, swelling rash, scaling, blistering, and, in some cases, skin sensitization. Individuals who have developed a skin sensitization can develop these symptoms because of contact with very small amounts of liquid material or because of exposure to vapor. Animal tests indicated that respiratory sensitization can result from skin contact with IPDI. This data reinforces the need to prevent direct skin contact with the product.
Inhalation	Inhalation of vapors in high concentration may cause irritation of respiratory system. Irritating to mucous membranes.
Ingestion	Can burn mouth, throat, and stomach. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic Effects	May cause dermatitis (itching, redness, swelling, rashes, hives, burning) and/or numbness/prickling of the skin. Isocyanate vapors or mist at concentrations above the TLV can irritate the mucous membranes in the respiratory tract causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung capacity.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions Respiratory disorders, including but not limited to asthma and bronchitis. Pre-existing eye, lung or skin problems. Skin disorders.

Interactions with Other Chemicals Not available

Potential Environmental Effects See Section 12 for additional Ecological information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Chemical Name	CAS-No	Weight %	North American Hazard Indicator
Polyhexamethylene Diisocyanate	28182-81-2	60 - 100	1

4. FIRST AID MEASURES

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
Skin Contact	Rinse immediately with plenty of water and seek medical advice.
Inhalation	If fumes from reactions are inhaled, move to fresh air immediately. If symptoms persist, call a physician.
Ingestion	Do not induce vomiting. Drink 1 or 2 glasses of water. Immediate medical attention is required. Never give anything by mouth to an unconscious person. Call a physician immediately.
Notes to Physician	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Foam. Carbon dioxide (CO₂). Dry chemical.

Unsuitable Extinguishing Media

Do not use a solid water stream as it may scatter and spread fire. Water contamination will produce CO₂.

Hazardous Combustion Products

Carbon dioxide (CO₂), Carbon monoxide, Oxides of nitrogen, ammonia.

Explosion Data

Sensitivity to mechanical impact
Sensitivity to static discharge

Not available
Not available

Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

NFPA**Health -****Flammability -****Instability -**

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Avoid contact with skin, eyes and clothing.

Environmental Precautions

Do not allow material to contaminate ground water system.

Methods for Containment

Dike with inert absorbent material Contain with inert absorbent material

Methods for Cleaning Up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable and closed containers for disposal.

Other Information

Not applicable

7. HANDLING AND STORAGE

Handling

Avoid contact with skin, eyes and clothing

Storage

Keep out of the reach of children

8. EXPOSURE CONTROLS / PERSONAL PROTECTION
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Engineering Measures

Do not allow ventilation equipment to draw material odors indoors.

Personal Protective Equipment**Eye/face Protection**

Safety glasses with side-shields

Skin Protection

Long sleeved clothing. Protective gloves.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance	Clear	
Odor	Aromatic	
Physical State	Liquid	
pH	Not available	
Flash Point	> 109°F / > 42.8°C	
Autoignition Temperature	Not available	
Boiling Point/Range	Not available	
Freezing Point	Not available	
Flammability Limits in Air	Lower 1%	Upper 7%
Explosive Properties	Not available	
Oxidizing Properties	Not available	
Evaporation Rate	Not available	
Vapor Pressure	Not available	
Vapor Density	Heavier than air	
Specific Gravity	1.10	
Density	9.15	
Water Solubility	Reacts with water	
Volatiles	Not available	
VOC Content	340 g/l (2.8 lbs/gal) Parts A & B combined	

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions
Conditions to Avoid	Open flames and intense heat
Incompatible Materials	No materials to be especially mentioned
Hazardous Decomposition Products	None under normal use
Possibility of Hazardous Reactions	None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Polyhexamethylene Diisocyanate			18500 mg/m ³ Rat 1 h
Aromatic solvent	8400 mg/kg Rat	2000 mg/kg Rabbit	3400 ppm Rat 4 h 5.2 mg/L Rat 4 h

Chronic Toxicity

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

12. ECOLOGICAL INFORMATION

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Ecotoxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants

Aromatic solvent

Water Flea Data

Daphnia magna EC50=6.14 mg/L (48 h)

Persistence/Degradability Not available

Bioaccumulation/ Accumulation Not available

Mobility in Environmental Media Not available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose of in accordance with local, state, and federal regulations

Contaminated Packaging Empty containers should be taken for local recycling, recovery or waste disposal

US EPA Waste Number Not available

14. TRANSPORT INFORMATION

DOT Not regulated, non-bulk
UN-No UN1263

TDG Not regulated

MEX Not regulated

ICAO
UN-No UN1263
Proper Shipping Name Paint
Hazard Class 3
Packing Group III

IATA
UN-No UN1263
Proper Shipping Name Paint
Hazard Class 3
Packing Group III

IMDG/IMO
Proper Shipping Name Paint
Hazard Class 3
UN-No UN1263
Packing Group III

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	CHINA	KECL	PICCS	AICS
Polyhexamethylene Diisocyanate	X	X	-	-	-	-	X	X	X	X
Aromatic solvent	X	X	-	X	-	-	X	X	X	X

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

USA**Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40n of the Code of Federal Regulations, Part 372.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any HAPs.

State Regulations**California Proposition 65**

WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

State Right-to-Know**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

B3 Combustible liquid
D2B Toxic materials

16. OTHER INFORMATION

Preparation Date 13-Oct-2010

Revision Date

Revision Summary

Not available





Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS



Material Safety Data Sheet

NFPA	WHMIS	PPE	Transport Symbol
			

Preparation Date 13-Oct-2010

Revision Date

Revision Number 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name

White-Knight® Plus Metal Primer-Part B

Product Code

7842 B

UN-No

UN1263

Contact Manufacturer

The Garland Company, Inc.
3800 East 91st. Street
Cleveland, Ohio 44105-2197
Ph: (800) 762-8225 Fax: (216) 641-0633

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Emergency Telephone Number 1-800-762-8225 (24 Hrs.)

2. HAZARDS IDENTIFICATION

Emergency Overview

Flammable Liquid

Appearance White.**Physical State** Liquid.**Odor** Ester. Pungent.**Mexico - Grade**

Not available

Potential Health Effects**Principle Routes of Exposure**

Not available

Acute Effects

Eyes
Skin

Contact with hot product may cause thermal burns and severe eye damage.
May be absorbed through the skin in harmful amounts.

Inhalation Avoid breathing vapors or mists. Inhalation of vapors in high concentration may cause irritation of respiratory system. May affect the brain or nervous system causing dizziness, headache or nausea.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion causes burns of the upper digestive and respiratory tracts.

Chronic Effects Repeated contact may cause allergic reactions in very susceptible persons

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions Respiratory disorders, including but not limited to asthma and bronchitis.

Interactions with Other Chemicals Not available

Potential Environmental Effects See Section 12 for additional Ecological information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Chemical Name	CAS-No	Weight %	North American Hazard Indicator
Methyl n-amyl ketone	110-43-0	1 - 5	1
n-Butyl acetate	123-86-4	1 - 5	1
Limestone	1317-65-3	10 - 30	1
Xylene	1330-20-7	1 - 5	1
Titanium dioxide	13463-67-7	10 - 30	1
Talc	14807-96-6	5 - 10	1
Quartz (Crystalline Silica)	14808-60-7	1 - 5	1

4. FIRST AID MEASURES

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

Inhalation If fumes from reactions are inhaled, move to fresh air immediately. If breathing is difficult, give oxygen. Consult a physician.

Ingestion Do not induce vomiting without medical advice. Immediate medical attention is required.

Notes to Physician Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Carbon dioxide (CO₂). Dry chemical. Foam.

Unsuitable Extinguishing Media Keep away from heat and sources of ignition.

Hazardous Combustion Products Carbon dioxide (CO₂), Carbon monoxide, Oxides of nitrogen.

Explosion Data

Sensitivity to mechanical impact
Sensitivity to static discharge

No
 Not available

Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

NFPA

Health 2

Flammability 2

Instability 1

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Evacuate personnel to safe areas. Avoid contact with skin, eyes and clothing. Use personal protective equipment.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not contaminate ponds, waterways or ditches with chemical or used container.
Methods for Containment	Contain with inert absorbent material
Methods for Cleaning Up	Soak up with inert absorbent material
Other Information	Not applicable

7. HANDLING AND STORAGE

Handling	Avoid contact with skin, eyes and clothing
Storage	Keep out of the reach of children

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	Ontario TWAEV	Mexico
Methyl n-amyl ketone	TWA: 50 ppm	TWA: 465 mg/m ³ TWA: 100 ppm	TWA: 115 mg/m ³ TWA: 25 ppm	STEL: 100 ppm STEL: 465 mg/m ³ TWA: 235 mg/m ³ TWA: 50 ppm
n-Butyl acetate	TWA: 150 ppm STEL: 200 ppm	TWA: 710 mg/m ³ TWA: 150 ppm	STEL: 200 ppm STEL: 950 mg/m ³ TWA: 710 mg/m ³ TWA: 150 ppm	STEL: 200 ppm STEL: 950 mg/m ³ TWA: 150 ppm TWA: 710 mg/m ³
Limestone		TWA: 15 mg/m ³ TWA: 5 mg/m ³	TWA: 10 mg/m ³	STEL: 20 mg/m ³ TWA: 10 mg/m ³
Xylene	TWA: 100 ppm STEL: 150 ppm	TWA: 100 ppm TWA: 435 mg/m ³	STEL: 650 mg/m ³ STEL: 150 ppm TWA: 100 ppm TWA: 435 mg/m ³	STEL: 150 ppm STEL: 655 mg/m ³ TWA: 435 mg/m ³ TWA: 100 ppm
Titanium dioxide	TWA: 10 mg/m ³	TWA: 15 mg/m ³	TWA: 10 mg/m ³	STEL: 20 mg/m ³ TWA: 10 mg/m ³
Talc	TWA: 2 mg/m ³		TWA: 2 mg/m ³	TWA: 2 mg/m ³
Quartz (Crystalline Silica)	TWA: 0.025 mg/m ³		TWA: 0.10 mg/m ³	TWA: 0.1 mg/m ³

Chemical Name	NIOSH IDLH
Methyl n-amyl ketone	800 ppm
n-Butyl acetate	1700 ppm
Titanium dioxide	5000 mg/m ³
Talc	1000 mg/m ³ containing no asbestos and <1% quartz
Quartz (Crystalline Silica)	50 mg/m ³

Engineering Measures Do not allow ventilation equipment to draw material odors indoors.

Personal Protective Equipment

Eye/face Protection

Safety glasses with side-shields.

Skin Protection

Protective gloves. Impervious clothing.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White
Odor	Ester Pungent
Physical State	Liquid
pH	Not available
Flash Point	81°F / 27°C
Autoignition Temperature	Not available
Boiling Point/Range	230°F / 110°C
Freezing Point	Not available
Flammability Limits in Air	Lower 1.0% Upper 7.9%
Explosive Properties	Not available
Oxidizing Properties	Not available
Evaporation Rate	Slower than ether
Vapor Pressure	Not available
Vapor Density	Not available
Specific Gravity	1.48
Density	12.35
Water Solubility	Minimal 1-9%
Volatiles	Not available
VOC Content	340 g/l Combined Parts A & B (2.8 lb/gal)

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions
Conditions to Avoid	Heat. High temperature. Moisture (potentially will lead to gas formation and warming). Open flames and intense heat.
Incompatible Materials	Isocyanates. Strong oxidizing agents.
Hazardous Decomposition Products	Upon heating or burning, the material decomposes, and may emit hazardous carbon monoxide and dioxide, oxides of nitrogen and sulfur, hydrocarbons.
Possibility of Hazardous Reactions	None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methyl n-amyl ketone	1670 mg/kg Rat	12600 µL/kg Rabbit	
n-Butyl acetate	10768 mg/kg Rat	17600 mg/kg Rabbit	390 ppm Rat 4 h
Xylene	4300 mg/kg Rat	1700 mg/kg Rabbit	5000 ppm Rat 4 h
Titanium dioxide	10000 mg/kg Rat		
Quartz (Crystalline Silica)	500 mg/kg Rat		

Chronic Toxicity

Carcinogenicity

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

Chemical Name	ACGIH	IARC	NTP	OSHA	Mexico
Titanium dioxide		Group 2B		X	
Quartz (Crystalline Silica)	A2	Group 1	Known	X	

12. ECOLOGICAL INFORMATION

Ecotoxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants

n-Butyl acetate

Freshwater Algae Data

Scenedesmus subspicatus EC50=320 mg/L (96 h)

Scenedesmus subspicatus EC50=674.7 mg/L (72 h)

Microtox Data

Photobacterium phosphoreum EC50=70.0 mg/L (5 min)

Photobacterium phosphoreum EC50=82.2 mg/L (15 min)

Pseudomonas putida EC50=959 mg/L (18 h)

Photobacterium phosphoreum EC50=98.9 mg/L (30 min)

Water Flea Data

water flea EC50=44 mg/L (48 h)

Xylene

Microtox Data

Photobacterium phosphoreum EC50=0.0084 mg/L (24 h)

Water Flea Data

Gammarus lacustris LC50=0.6 mg/L (48 h)

water flea EC50=3.82 mg/L (48 h)

Persistence/Degradability

Not available

Bioaccumulation/ Accumulation

Not available

Mobility in Environmental Media

Not available

n-Butyl acetate

n-Butyl acetate**log Pow = 1.81**Xylene**log Pow = 2.77 - 3.15****13. DISPOSAL CONSIDERATIONS**

Waste Disposal Method	Dispose of in accordance with local, state, and federal regulations
Contaminated Packaging	Empty containers should be taken for local recycling, recovery or waste disposal
US EPA Waste Number	D001

14. TRANSPORT INFORMATION**DOT**

Proper Shipping Name	Paint
Hazard Class	3
UN-No	UN1263
Packing Group	III

TDG

Proper Shipping Name	Paint
Hazard Class	3
UN-No	UN1263
Packing Group	III

MEX

Proper Shipping Name	Pintura
Hazard Class	3
UN-No	UN1263
Packing Group	III

ICAO

UN-No	UN1263
Proper Shipping Name	Paint
Hazard Class	3
Packing Group	III

IATA

UN-No	UN1263
Proper Shipping Name	Paint
Hazard Class	3
Packing Group	III
ERG Code	128

IMDG/IMO

Proper Shipping Name	Paint
Hazard Class	3
UN-No	UN1263

14. TRANSPORT INFORMATION

Packing Group III
EmS No. F-E, S-E

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	CHINA	KECL	PICCS	AICS
Methyl n-amyl ketone	X	X	-	X	-	X	X	X	X	X
n-Butyl acetate	X	X	-	X	-	X	X	X	X	X
Limestone	X	-	X	X	-	-	X	X	X	X
Xylene	X	X	-	X	-	X	X	X	X	X
Titanium dioxide	X	X	-	X	-	X	X	X	X	X
Calcium Metasilicate (particles not otherwise classified)	X	X	X	X	X	X	X	X	X	X
Talc	X	X	-	X	-	-	X	X	X	X
Quartz (Crystalline Silica)	X	X	-	X	-	X	X	X	X	X
Polymer of Epoxy Resin and bisphenol A	X	X	X	X	X	X	X	X	X	X
Barium sulfate	X	X	X	X	X	X	X	X	X	X
Ethyl 3-Ethoxypropionate	X	X	X	X	X	X	X	X	X	X

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

USAFederal RegulationsSARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40n of the Code of Federal Regulations, Part 372.

Chemical Name	SARA 313 - Threshold Values
Xylene (CAS #: 1330-20-7)	1.0%

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any HAPs.

Chemical Name

Xylene (CAS #: 1330-20-7)

State Regulations

California Proposition 65

WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

Chemical Name	CAS-No	Category	Type
Quartz (Crystalline Silica)	14808-60-7	Carcinogen	

State Right-to-Know

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Methyl n-amyl ketone	X	X	X		X
n-Butyl acetate	X	X	X		X
Limestone	X		X		X
Xylene	X	X	X	X	X
Titanium dioxide	X	X	X		X
Talc	X	X	X		X
Quartz (Crystalline Silica)	X	X	X		X

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

B3 Combustible liquid
D2B Toxic materials

16. OTHER INFORMATION

Preparation Date 13-Oct-2010

Revision Date

Revision Summary Not available

Disclaimer

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End of MSDS