
Safety Data Sheet

OR7001

Section 1 – Identification

Oak Ridge Foam & Coating Systems, Inc
575 Commercial Ave
Green Lake, WI 54941
920-294-6800

Emergency Telephone: (800) 424-9300 Chemtrec
800-625-9577 (Oak Ridge Foam & Coating Systems, Inc)
BOTH NUMBERS ARE AVAILABLE DAYS, NIGHTS, WEEKENDS, & HOLIDAYS

GHS product identifier: **OR7001**

Other means of identification: Not available.

Product type: Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use: Component of a Polyurethane System

Supplier's details: Oak Ridge Foam & Coating Systems, Inc
575 Commercial Avenue
Green Lake, WI 54941

Email address of person responsible for this SDS: info@oakridgepoly.com

Emergency telephone number (24h/7 day): Chemtrec: (800) 424-9300 or (703) 527-3887

Section 2 – Hazards Identification

OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture:

Flammable Liquid	3
Acute Toxicity	4 (Inhalation)
Skin Irritation	2
Eye Irritation	2A
Respiratory Sensitization	1
Skin Sensitization	1
Carcinogenic	2
Specific Target Organ	
Toxicity - Single Exposure	3
Specific Target Organ	
Toxicity - Repeated Exposure	2
Aspiration Toxicity	1

GHS Label Elements

Hazard pictograms:



Signal word: Danger

Hazard Statements:

Flammable liquid and vapor. Harmful if inhaled. Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. Contains materials suspected of causing cancer. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways.

Precautionary Statements:

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 equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. In case of inadequate ventilation, wear respiratory protection. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. If exposed or concerned: Get medical advice/attention. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center/doctor. 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 swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. Store in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed. Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards: Not available.

Section 3 – Hazards Identification

Substance / Mixture:	Mixture		
Name	Product identifier	%	GHS-US classification
Xylenes (o-, m-, p-isomers)	(CAS No) 1330-20-7	30 - 60	Flam. Liq. 3 Acute Tox. 4 (Dermal) Acute Tox. 4 (Inhalation) Skin Irrit. 2 Eye Irrit. 2A Asp. Tox. 1
Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]	(CAS No) 68424-09-9	10 - 30	Acute Tox. 4 (Inhalation) Skin Irrit. 2 Eye Irrit. 2A Resp. Sens. 1 STOT SE 3
Ethylbenzene	(CAS No) 100-41-4	7 – 13	Flam. Liq. 2 Acute Tox. 4 (Inhalation)

Isocyanic acid, polymethylenepolyphenyl ene ester	(CAS No) 9016-87-9	1 – 5	Skin Irrit. 2 Carc. 2 Asp. Tox. 1 Skin Irrit. 2 Eye Irrit. 2 Resp. Sens. 1 Skin Sens. 1 STOT RE 2 STOT SE 3
4,4'-Methylenediphenyl diisocyanate	(CAS No) 101-68-8	1 – 5	Skin Irrit. 2 Eye Irrit. 2A Resp. Sens. 1 Skin Sens. 1 STOT SE 3 STOT RE 2
Carbon black**	(CAS No) 1333-86-4	0.1 - 1	Carc. 2**

* The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

** These materials are bound in liquid/paint and are not airborne or in dust form.

Section 4 – First Aid Measures

Description of first aid measures

First-aid measures after inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops or persists.

First-aid measures after eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. If irritation persists, get medical attention.

First-aid measures after ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Immediately call a POISON CENTER or doctor/physician

Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation: Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory tract irritation.

Symptoms/injuries after skin contact: Causes skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin. May cause sensitization by skin contact.

Symptoms/injuries after eye contact: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/injuries after ingestion: May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea or vomiting.

Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Section 5 – Fire Fighting Measures

Suitable Extinguishing media: Water spray, carbon dioxide, dry chemical, alcohol foam.

Unsuitable extinguishing media: Full water jet.

Specific hazards arising from the substance or mixture: Flammable liquid and vapor. Products of combustion may include, and are not limited to: oxides of carbon.

Advice for firefighters: Keep upwind of fire. Wear full firefighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

Section 6 – Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Eliminate sources of ignition.

Methods and material for containment and cleaning up: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE). Scoop up material and place in a disposal container. Provide ventilation.

Section 7 – Storage and Handling

Precautions for safe handling: Keep away from sources of ignition - No smoking. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray. Do not swallow. Handle and open container with care. Use only non-sparking tools. Take precautionary measures against static discharge. When using do not eat, drink or smoke. Use only outdoors or in a well-ventilated area.

Hygiene measures: Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

Technical measures: Proper grounding procedures to avoid static electricity should be followed.

Storage conditions: Keep out of the reach of children. Keep container tightly closed and in a well-ventilated place. Store locked up. Keep cool.

Section 8 – Exposure Controls/Personal Protection

Components with workplace control parameters

Xylenes (o-, m-, p- isomers) (1330-20-7)

USA ACGIH	ACGIH TWA (ppm)	100 ppm
USA ACGIH	ACGIH STEL (ppm)	150 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	435 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm

Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene] (68424-09-9)

USA ACGIH	ACGIH TWA	Not available
USA OSHA	OSHA PEL (TWA)	Not available

Ethylbenzene (100-41-4)

USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	435 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm
Isocyanic acid, polymethylenepolyphenylene ester (9016-87-9)		
USA ACGIH	ACGIH TWA	Not available
USA OSHA	OSHA PEL (TWA)	Not available
4,4'-Methylenediphenyl diisocyanate (101-68-8)		
USA ACGIH	ACGIH TWA (ppm)	0.005 ppm
USA OSHA	OSHA PEL (Ceiling) (mg/m ³)	0.2 mg/m ³
USA OSHA	OSHA PEL (Ceiling) (ppm)	0.02 ppm
Carbon black (1333-86-4)		
USA ACGIH	ACGIH TWA (mg/m ³)	3 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	3.5 mg/m ³

Exposure Controls

Appropriate engineering controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Hand protection: Wear chemically resistant protective gloves.

Eye protection: Wear eye protection.

Skin and body protection: Wear suitable protective clothing.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment.

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.

Environmental exposure controls: Maintain levels below Community environmental protection thresholds.

Other information: Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices.

Section 9 – Physical Properties

Physical state:	Liquid.
Appearance:	Thin.
Color:	Varies.
Odor:	Aromatic.
Odor threshold:	No data available.
pH:	No data available.
Relative evaporation rate (butylacetate=1):	No data available.
Melting point:	No data available.
Freezing point:	No data available.
Boiling point:	138 - 142 °C (280 - 288 °F)
Flash point:	27 °C (81 °F)
Auto-ignition temperature:	No data available.

Decomposition temperature:	No data available.
Flammability (solid, gas):	No data available.
Vapor pressure:	No data available.
Relative vapor density at 20 °C:	No data available.
Relative density:	0.923
Solubility:	No data available.
Log Pow:	No data available.
Log Kow:	No data available.
Viscosity, kinematic:	No data available.
Viscosity, dynamic:	2 - 10 cP
Explosive properties:	No data available.
Oxidising properties:	No data available.
Explosive limits:	No data available.

Section 10 – Stability and Reactivity

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical stability

Stable under normal storage conditions. May form flammable/explosive vapor-air mixture.

Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

Conditions to avoid

Heat. Incompatible materials. Sources of ignition.

Incompatible materials

Oxidizers.

Hazardous decomposition products

May include, and are not limited to: oxides of carbon.

Section 11 – Toxicological Information

Acute toxicity: Harmful if inhaled.

OR7000

LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	>10.0 but ≤20.0 mg/l/4h (Calculated using ATE values)

Xylenes (o-, m-, p- isomers) (1330-20-7)

LD50 oral rat	4300 mg/kg
LD50 dermal rabbit	> 1700 mg/kg
LC50 inhalation rat	5000 ppm/4h

Ethylbenzene (100-41-4)

LD50 oral rat	3500 mg/kg
LD50 dermal rabbit	15354 mg/kg
LC50 inhalation rat	17.2 mg/l/4h

Isocyanic acid, polymethylenepolyphenylene ester (9016-87-9)

LD50 oral rat	49 g/kg
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LD50 dermal rabbit	>9400 mg/kg
LC50 inhalation rat	490 mg/m ³ /4/h
4,4'-Methylenediphenyl diisocyanate (101-68-8)	
LD50 oral rat	9200 mg/kg
LD50 dermal rabbit	>9400 mg/kg
LC50 inhalation rat	369 mg/m ³ /4/h
Carbon black (1333-86-4)	
LD50 oral rat	> 15400 mg/kg
LD50 dermal rabbit	> 3000 mg/kg

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/irritation: Causes serious eye irritation.

Respiratory or skin sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Suspected of causing cancer.

Xylenes (o-, m-, p- isomers) (1330-20-7)

IARC group 3 - Not classifiable

Ethylbenzene (100-41-4)

IARC group 2B - Possibly carcinogenic to humans

National Toxicity Program (NTP) Status 1 - Evidence of Carcinogenicity

Isocyanic acid, polymethylenepolyphenylene ester (9016-87-9)

IARC group 3 - Not classifiable

4,4'-Methylenediphenyl diisocyanate (101-68-8)

IARC group 3 - Not classifiable

Carbon black (1333-86-4)

IARC group 2B - Possibly carcinogenic to humans

Reproductive toxicity: Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure): May cause respiratory irritation.

Specific target organ toxicity (repeated exposure): May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: May be fatal if swallowed and enters airways.

Symptoms/injuries after inhalation: Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory tract irritation.

Symptoms/injuries after skin contact: Causes skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin. May cause sensitization by skin contact.

Symptoms/injuries after eye contact: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/injuries after ingestion: May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea or vomiting.

Section 12 – Ecological Information

Toxicity

Ecology - general: May cause long-term adverse effects in the aquatic environment.

Persistence and degradability

Persistence and degradability: Not established.

Bioaccumulative potential

Bioaccumulative potential: Not established.

Mobility in soil

No additional information available

Other adverse effects

Effect on ozone layer: No additional information available

Effect on the global warming: No known ecological damage caused by this product.

Section 13 – Disposal Consideration

Waste disposal recommendations: This material must be disposed of in accordance with all local, state, provincial, and federal regulations. The generation of waste should be avoided or minimized wherever possible.

Additional information: Handle empty containers with care because residual vapors are flammable.

Section 14 – Transportation Information

Proper shipping name**International Regulations****IATA**

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations**DOT Classification**

Not regulated as dangerous goods

Section 15 – Regulatory Information

EPCRA - Emergency Planning and Community Right-to-Know Act**CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs.)	Calculated product RQ (lbs.)
4,4'-methylenediphenyl diisocyanate	101-68-8	5000	31885
chlorobenzene	108-90-7	100	*
ethylene oxide	75-21-8	10	*
Formaldehyde	50-00-0	100	*
1,4-dioxane	123-91-1	100	*
acetaldehyde	75-07-0	1000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards: Acute Health Hazard

SARA 313: The following components are subject to reporting levels established by SARA Title III, Section 313:

4,4'-methylenediphenyl diisocyanate	101-68-8	10 - 20 %
Diphenylmethanediisocyanate	9016-87-9	10 - 20 %

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

4,4'-methylenediphenyl diisocyanate	101-68-8	15.681 %
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California Prop. 65

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

ethylene oxide	75-21-8
formaldehyde	50-00-0
1,4-dioxane	123-91-1
Acetaldehyde	75-07-0

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

ethylene oxide	75-21-8
Ethylene glycol mono methyl ether	109-86-4

The components of this product are reported in the following inventories:

CH INV:	The formulation contains substances listed on the Swiss Inventory, On the inventory, or in compliance with the inventory
DSL:	All components of this product are on the Canadian DSL
AICS:	On the inventory, or in compliance with the inventory
NZIoC:	On the inventory, or in compliance with the inventory
ENCS:	Not in compliance with the inventory
KECI:	On the inventory, or in compliance with the inventory
PICCS:	Not in compliance with the inventory
IECSC:	On the inventory, or in compliance with the inventory
TCSI:	On the inventory, or in compliance with the inventory
TSCA0:	On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

TSCA - 5(a) Significant New Use Rule List of Chemicals

No substances are subject to a Significant New Use Rule.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

No substances are subject to TSCA 12(b) export notification requirements.

Section 16 – Other Information

Hazardous Material Information System (USA)

Health = 2 Flammability = 1 Physical hazards = 1 Personal protection = H

The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association

National Fire Protection Association (USA)

Health = 2

Flammability = 1

Instability = 1

Special = 0

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Liquid decontaminants (percentages by weight or volume):

Decontaminant 1: *- sodium carbonate: 5 - 10 % *- liquid detergent: 0.2 - 2 % *- water: to make up to 100 %

Decontaminant 2: *- concentrated ammonia solution: 3 - 8% *- liquid detergent: 0.2 - 2% *- water: to make up to 100% Decontaminant 1 reacts slower with diisocyanates but is more environmentally friendly than decontaminant 2.

Decontaminant 2 contains ammonia. Ammonia presents health hazards. (See supplier safety information.)

Literature reference: PU 193-1: 'MDI-Based Compositions: Hazards and Safe Handling Procedures.'

PU 181-15: Recommended melting procedures for MDI-based isocyanates. ISOPA Guidelines for safe Loading/Unloading, Transportation, Storage of TDI and MDI, Ref.03-96 PSC-0005-GUIDL. SPI PMDI User Guidelines for the Chemical Protective Clothing Selection. References of methods used in the Physico-Chemical Properties section are reported in Annex V part A to Commission Directive 92/69/EEC of 31 July 1992 adapting to technical progress for the Seventeenth time Council Directive 67/548/EEC.

Notice to reader

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behavior of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.