

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: Twin Jet Part 2
Product Code: W56RACIAPC2

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Product Use: One component of a two-component polyurethane system
 Use this product in accordance with all local, regional, national and international regulations.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Firestone Building Products
 200 4th Avenue South
 Nashville, TN 37201
Telephone Number: Technical: 1-800-428-4511 • Français: 1-888-292-6265
Email: firestonemsds@bfdp.com
Website: www.firestonebpco.com

1.4 EMERGENCY TELEPHONE NUMBER

For Chemical Emergency
 Spill, Leak, Fire, Exposure, or Incident
 Within USA and Canada: 1-800-424-9300
 Outside USA and Canada: +1-703-527-3887 (collect calls accepted)

SECTION 2: HAZARD(S) IDENTIFICATION

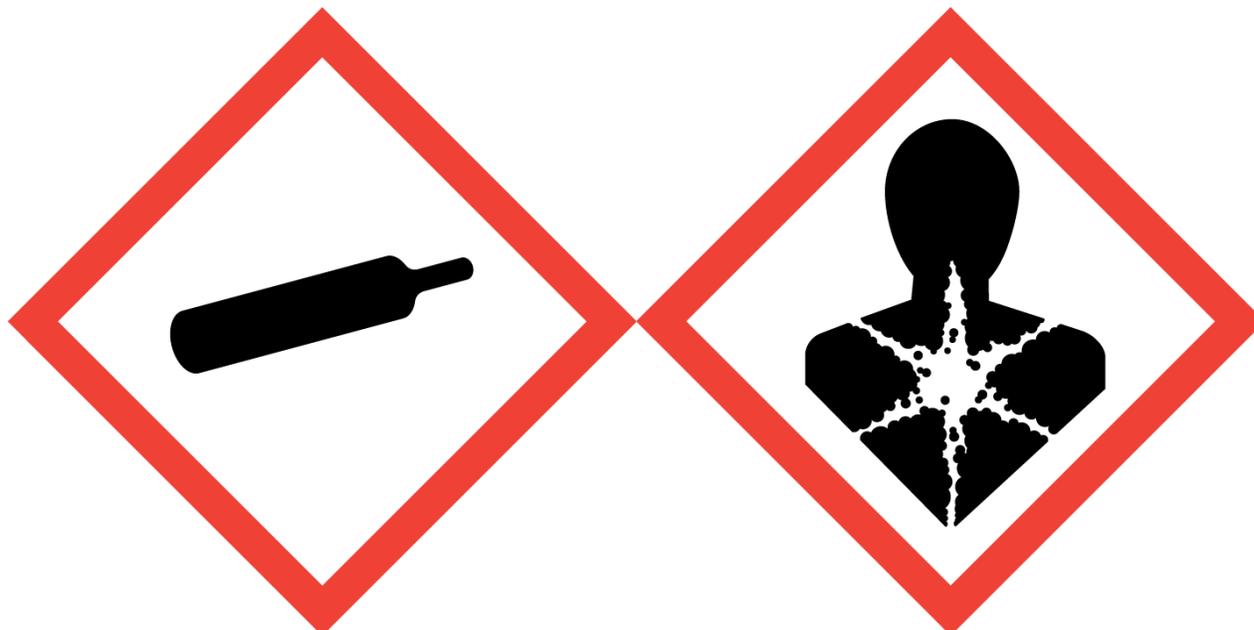
2.1 CLASSIFICATION OF THE CHEMICAL

Hazard class:

HAZARD CLASSIFICATION	CATEGORY
STOT RE - Specific Toxic Organ Toxicity (Repeated Exposure) Gases Under Pressure	2 -

2.2 LABEL ELEMENTS

Hazard pictogram: GHS04, GHS08



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Signal word:	Warning
Hazard statement:	Contains gas under pressure; may explode if heated May cause damage to organs <kidney> through prolonged or repeated exposure <oral> HNOC - May displace oxygen and cause rapid suffocation
Prevention:	Do not breathe dust/fume/gas/mist/vapors/spray.
Response:	Get Medical advice/attention if you feel unwell.
Storage:	Protect from sunlight. Store in a well-ventilated place.
Disposal:	Dispose of contents and container in accordance with all local, regional, national and international regulations.

2.3 ADDITIONAL INFORMATION

Main symptoms:	Prolonged exposure may cause chronic effects. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.
Hazards not otherwise specified:	May displace oxygen and cause rapid suffocation

<65% of the mixture consists of ingredient(s) of unknown acute toxicity

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Material	CAS No.	Weight %*
Norflurane	811-97-2	10-15%
Oxydipropanol	25265-71-8	<15%
Diethylene glycol	111-46-6	<15%
Other components below reportable levels	--	<65%

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

SECTION 4: FIRST-AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURES

General information:	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible).
Inhalation:	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact:	Wash skin with plenty of soap and water. Get medical attention if irritation develops and persists.
Eye contact:	Rinse eyes with water. Get medical attention if irritation develops and persists.
Ingestion:	Rinse mouth. Get medical attention if symptoms occur.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Prolonged exposure may cause chronic effects.
May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

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4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

Note to physicians: Treat symptomatically.
Specific treatments: In case of accident or if you feel unwell, seek medical advice (show the label or SDS where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

General hazards: During fire, gases hazardous to health may be formed. May react explosively even in the absence of air at elevated pressure and/or temperature.
Suitable extinguishing media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2)
Unsuitable extinguishing media: Do not use water jet as an extinguisher as this will spread the fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Specific hazards: Contents under pressure. Pressurized container may explode when exposed to heat or flame.
Products of combustion: May include, and are not limited to: oxides of carbon.

5.3 Special protective equipment and precautions for fire-fighters (PPE)

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire-fighting procedures: Keep upwind of fire. Move containers from fire area if you can do it without risk.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Keep unnecessary personnel away. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Emergency personnel need self-contained breathing equipment. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

Methods for containment: 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).
Methods for cleaning-up: Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Following product recovery, flush area with water. For waste disposal, see Section 13 of the SDS.
Large spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.
Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
 Never return spills to original containers for re-use.
Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

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Precautions for Safe handling: Observe good industrial hygiene practices.
General hygiene advice: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Safe storage: Store away from incompatible materials.
Specific use: One component of a two-component polyurethane system
Technical measures: No specific recommendations.
Incompatible materials: Oxidizing agents.
Safe packaging material: No specific recommendations.
Precautions: Use personal protective recommended in Section 8 of the SDS.
Safe handling advice: Observe good industrial hygiene practices.
Suitable storage conditions: Store away from incompatible materials.
Handling-technical measures: No specific recommendations.
Local and general ventilation: Provide adequate ventilation.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Control parameters: Follow standard monitoring procedures.

Exposure limits:

Diethylene glycol
 OSHA: None
 NIOSH:
 REL: Ethylene glycol [Ceiling 50 ppm]

8.2 EXPOSURE CONTROLS

Engineering measures to reduce exposure:

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

8.3 INDIVIDUAL PROTECTIVE MEASURES

General: Use personal protective equipment as required.
Eye protection: If contact is likely, safety glasses with side shields are recommended.
Hand protection: For prolonged or repeated skin contact, use suitable protective gloves.
Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment.
Skin and body protection: Wear suitable protective clothing.
Hygiene measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
Thermal hazards: Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls: Environmental manager must be informed of all major releases.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Red viscous liquid with mildly sweet odor
Color:	Red
Form:	Aerosol
Odor:	Mildly sweet
Odor Threshold:	Not applicable
Physical State:	Liquid
pH (at 20°C):	Not applicable
Melting Point/Freezing Point:	Not applicable
Initial Boiling Point and Boiling Range:	Not applicable
Flash Point:	Not applicable
Evaporation Rate:	Not applicable
Flammability (solid, gaseous):	Not Flammable
Lower Flammability/Explosive Limit:	Not applicable
Upper Flammability/Explosive Limit:	Not applicable
Vapor Pressure (mm Hg @38°C):	> 200 psi
Vapor Density:	Not applicable
Density (lb/gal):	1.03 Water=1
Relative Density/Specific Gravity:	Not applicable
Solubility in water/miscibility:	Partially Soluble
Partition coefficient: n-octanol/water:	Not applicable
Auto-ignition Temperature:	Not applicable
Decomposition Temperature:	Not applicable
Viscosity (at 20°C) g/L:	Not applicable
Oxidizing Properties:	Not applicable
Explosive Properties:	Not applicable
VOC:	0 g/L (<0.0 lb/gal)
Solvent content - Water:	Not applicable
Solvent content - Solids:	Not applicable
Other information:	Not applicable
Incompatibilities:	Oxidizing agents.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2 CHEMICAL STABILITY	
Chemical stability:	Material is stable under normal conditions.
Materials to avoid:	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.3 POSSIBILITY OF HAZARDOUS REACTIONS	
Hazardous reactions:	No dangerous reaction known under conditions of normal use.
10.4 CONDITIONS TO AVOID	Heat may cause the cylinders to explode. Avoid heat, sparks, open flames and other ignition sources. Contact with incompatible materials.
10.5 INCOMPATIBLE MATERIALS	Oxidizing agents.
10.6 HAZARDOUS DECOMPOSITION PRODUCTS	
Hazardous decomposition products:	No hazardous decomposition products are known.
Hazardous polymerization:	Does not occur.
Other information:	Not applicable.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity: Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

Likely routes of exposure: Skin contact. Eye contact. Inhalation.

Eye: Direct contact with eyes may cause temporary irritation.

Skin: No adverse effects due to skin contact are expected. Prolonged skin contact may cause dryness, redness, or cracking.

Ingestion: Not an expected route of exposure. Expected to be a low ingestion hazard.

Inhalation: Not an expected route of exposure. No adverse effects due to inhalation are expected.

LD50/LC50 values relevant to this classification:

Norflurane

Inhal rat LC0 >567,000 ppm air 4 hr, practically non toxic
 Inhal dog LC50 80,000 ppm air 1 hr, no effects
 Inhal mouse LC50 >270,000 ppm air 10 min, no effects

Oxydipropanol

Oral rat LD50 >5000 mg/kg bw
 Oral rat LD50 15.8 mL/kg bw
 Inhal rat LC50 >2.35 mg/L air 4hr
 Derm rabbit LD50 >5010 mg/kg bw

Diethylene glycol

Oral rat LD50 19600 mg/kg bw/day
 Oral rat LD50 16500 mg/kg bw/day
 Oral Human LD50 1120 mg/kg bw/day
 Oral Rat LD50 >25300 mg/kg
 Inhal rat LC50 > 4.6 mg/L air 4hr
 Inhal Rat LC50 >5.06 mg/l
 Derm rabbit LD50 13300 mg/kg bw
 Dermal Rabbit LD50 12500 mg/kg

Calculated overall chemical acute toxicity values for this formulation:

Calculated overall Chemical Acute Toxicity Values		
LC50 (inhalation)	LD50 (oral)	LD50 (dermal)
>5 mg/kg (dust and mist)	>2000 mg/kg	>2000 mg/kg

11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE

Skin corrosion/irritation: Based on available data, this product is not expected to cause skin corrosion or irritation. Prolonged skin contact may cause dryness, redness, or cracking.

Serious eye damage/irritation: Based on available data, this product is not expected to cause serious eye damage or irritation. Direct contact with eyes may cause temporary irritation.

Respiratory sensitization: Based on available data, this product is not expected to cause respiratory sensitization.

Skin sensitization: Based on available data, this product is not expected to cause skin sensitization.

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Symptoms and target organs: Prolonged exposure may cause chronic effects. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

Chronic health effects: Prolonged exposure may cause chronic effects. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

Carcinogenicity: This product is not classified as a carcinogen.

Material	OSHA(O)	ACGIH(G)	NTP(N)	IARC(I)
Diethylene glycol	Not listed	A3	No listed	3

SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

OSHA (O) =Occupational Safety and Health Administration
 Ca/Yes = Expected to be carcinogenic
 not listed = Not expected to be carcinogenic

ACGIH (G) =American Conference of Governmental Industrial Hygienists
 A1 =Confirmed human carcinogen
 A2 =Suspected human carcinogen
 A3 =Animal carcinogen
 A4 =Not classifiable as a human carcinogen
 A5 =Not suspected as a human carcinogen
 not listed = Not expected to be carcinogenic

NTP (N) =National Toxicology Program

K =Known to be a carcinogen
 R =Reasonably anticipated to be a carcinogen
 not listed = Not expected to be carcinogenic
IARC (I) =International Agency for Research on Cancer
 1 =Carcinogenic to humans
 2A =Probably carcinogenic to humans
 2B =Possibly carcinogenic to humans
 3 =Not classifiable as to its carcinogenicity to humans
 4 =Probably not carcinogenic to humans
 not listed = Not expected to be carcinogenic

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive Toxicity: This product is not expected to cause reproductive or developmental effects.

Specific Target Organ Toxicity (STOT):

Single Exposure: Not classified as an STOT - Single Exposure.

Repeated Exposure: May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

Aspiration Toxicity: Based on available data, this product is not expected to cause aspiration toxicity.

Other Information: Not applicable.

SECTION 12: ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

Ecotoxicity: The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Acute aquatic toxicity: The product is not classified as acutely environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Chronic toxicity: The product is not classified as having a chronic environmental hazard. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Environmental effects: The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.2 PERSISTENCE AND DEGRADABILITY

Persistence/biodegradability: The product contains substances which are not expected to be readily biodegradable.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

12.4 MOBILITY

Mobility: No data available.
Mobility in soil: No data available.
Mobility in non-soil: No data available.

12.5 OTHER ADVERSE EFFECTS

Ozone layer: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

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US Federal Regulations:

U.S. OSHA (Occupational Safety and Health Administration) Specifically Regulated Substances (29 CFR 1910.1001-1050)

No components of this product are present at concentration greater than or equal to 0.1% and are identified as a carcinogen or potential carcinogen by OSHA.

SARA/CERCLA reporting requirements:

No components of this product are found at concentrations greater than or equal to 0.1% and are subject to the SARA/CERCLA reporting requirements.

State Right-to-Know Regulations

The following components of this product are found at concentrations greater than or equal to 0.1%, subject to state Right-to-Know reporting requirements; or are found at any concentration and are listed under California Proposition 65.

Material	California Proposition 65	Massachusetts Right-to-Know	Minnesota Employee Right-to-Know	New Jersey Community Environmental Hazard Right-to-Know	New Jersey Right-to-Know Substance	Pennsylvania Right-to-Know	Rhode Island Right-to-Know
Oxydipropanol	Not listed	Not listed	Not listed	Not listed	Not listed	Listed	Not listed
Diethylene glycol	Not listed	Not listed	Listed	Not listed	Not listed	Listed	Not listed

Global Inventories:

Notification status:	
US - TSCA	All substances are listed
Canada -DSL	All substances are listed
Canada - NDSL	No substances are listed
EU - EINECS	All substances are listed
EU - ELINCS	No substances are listed
EU - NLP	No substances are listed
Australia – AICS	All substances are listed
China - EICSC	All substances are listed
Japan - ENCS	All substances are listed
Korea - KECI	All substances are listed
Taiwan - NECI	All substances are listed
New Zealand - NZIoC	All substances are listed
Philippine - PICCS	All substances are listed

EU - REACH Status:

A registration number is not available for substances in this mixture as the substances are exempted from registration or the annual tonnage does not require a registration.

HAZARD CLASSIFICATION	CATEGORY
STOT RE - Specific Toxic Organ Toxicity (Repeated Exposure) Gases Under Pressure	2 -

CANADA – WHMIS (Workplace Hazardous Materials Information System) Classification (GHS):

HAZARD CLASSIFICATION	CATEGORY
STOT RE - Specific Toxic Organ Toxicity (Repeated Exposure) Gases Under Pressure	2 -

MEXICO (GHS):

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Carcinogen Status: No data available.

SECTION 16: OTHER INFORMATION

HMIS (Hazardous Materials Identification System) rating:

Health:	1*
Flammability:	0
Physical:	0

NFPA 704 (National Fire Protection Association) rating:

Health	1
Fire	0
Reactivity	0

Legend:

DOT	US Department of Transportation
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
ACGIH	American Conference of Governmental Industrial Hygienists
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act
CAA	Clean Air Act
SARA	Superfund Amendments and Reauthorization Act
EPCRA	Emergency Planning and Community Right-to-Know Act
WHMIS	Workplace Hazardous Materials Information System
EU	European Union
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
TSCA	US Toxic Substances Control Act (TSCA)
DSL	Canada Domestic Substance List (DSL)
NDSL	Canada Non-Domestic Substance List (NDSL)
EINECS	European Inventory of Existing Commercial Chemical Substances (EINECS)
ELINCS	European List of Notified Chemical Substances (ELINCS)
NLP	European list of No-longer Polymers (NLP)
AICS	Australian Inventory of Chemical Substances (AICS)
EICSC	China Existing Chemical Inventory - IECSC
ENCS	Japanese Existing and New Chemical Substances Inventory(ENCS)
KECI	Korea Existing Chemicals Inventory(KECI)
NECI	Taiwan National Existing Chemical Inventory (NECI)
NZIoC	New Zealand Inventory of Chemicals (NZIoC)
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
HMIS	Hazardous Materials Identification System
NFPA	National Fire Protection Association (NFPA)

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Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given

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End of Safety Data Sheet