



SAFETY DATA SHEET

Revision Date 16-May-2018

Version 4

1. IDENTIFICATION

Product identifier

Product Name PERMA SHIELD GASKET DRESSING & FLANGE SEALANT 2 FL.OZ

Other means of identification

Product Code 85420

Recommended use of the chemical and restrictions on use

Recommended Use Sealant.

Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address

ITW Permatex
6875 Parkland Blvd.
Solon, OH 44139 USA

May Also Be Distributed by:

ITW Permatex Canada
101-2360 Bristol Circle
Oakville, ON Canada L6H 6M5
Telephone: (800) 924-6994

24-hour emergency phone number Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585
Contract Number: MIS0003453

E-mail address mail@permatex.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 2
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2
Flammable liquids	Category 2

Label elements

Emergency Overview

Signal word

Danger

Causes serious eye irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure
Highly flammable liquid and vapor



Appearance Blue

Physical state Liquid

Odor Ketone

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Use non-sparking tools
Take precautionary measures against static discharge
Keep cool

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
Specific treatment (see supplemental first aid instructions on this label)
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 skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
In case of fire: Use CO₂, dry chemical, or foam to extinguish.

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

- Not applicable

Unknown acute toxicity

9.96 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance(s)

Chemical Name	CAS No	Weight-%
ACETONE	67-64-1	30 - 60
DIPHENYLMETHANEDIISOCYANATE	101-68-8	1 - 5

~DIPHENYLMETHANE-4,4 -DI-ISOCYANATE ~	5873-54-1	0.1 - 1
ETHANOL	64-17-5	0.1 - 1

Any concentration shown as a range is due to batch variation.

4. FIRST AID MEASURES

Description of first aid measures

General advice	Get medical advice/attention if you feel unwell.
Eye contact	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.
Skin contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.
Ingestion	IF SWALLOWED: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms	See section 2 for more information.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide (CO₂), Dry chemical, Foam

Unsuitable extinguishing media

None.

Specific hazards arising from the chemical

Highly flammable. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Explosion data

Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. ELIMINATE all ignition sources (no smoking,
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flares, sparks or flames in immediate area). Use personal protective equipment as required.

Environmental precautions

Environmental precautions Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Eliminate all ignition sources if safe to do so. Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse. Use personal protective equipment as required. Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

Incompatible materials Strong oxidizing agents, Bases, Reducing agents, Amines

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ACETONE 67-64-1	STEL: 500 ppm TWA: 250 ppm	TWA: 1000 ppm TWA: 2400 mg/m ³ (vacated) TWA: 750 ppm (vacated) TWA: 1800 mg/m ³ (vacated) STEL: 2400 mg/m ³ The acetone STEL does not apply to the cellulose acetate fiber industry. It is in effect for all other sectors (vacated) STEL: 1000 ppm	IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m ³
DIPHENYLMETHANEDIISOCYANATE 101-68-8	TWA: 0.005 ppm	(vacated) Ceiling: 0.02 ppm regulated under Methylene bisphenyl isocyanate (vacated) Ceiling: 0.2 mg/m ³ regulated under Methylene bisphenyl isocyanate Ceiling: 0.02 ppm Ceiling: 0.2 mg/m ³	IDLH: 75 mg/m ³ Ceiling: 0.020 ppm 10 min Ceiling: 0.2 mg/m ³ 10 min TWA: 0.005 ppm TWA: 0.05 mg/m ³
ETHANOL 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m ³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m ³	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m ³

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls	Showers Eyewash stations Ventilation systems
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Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	Wear protective natural rubber, nitrile rubber, Neoprene™ or PVC gloves.
Respiratory protection	Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Blue
Odor	Ketone
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	54 °C / 129 °F	
Flash point	-18 °C / 0 °F	
Evaporation rate	< 1	Butyl acetate = 1
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	12.8%	
Lower flammability limit:	2.6%	
Vapor pressure	No information available	
Vapor density	>1	Air = 1
Relative density	1.04	
Water solubility	Partially soluble	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	<1%
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity

Stable under normal conditions

Chemical stability

Stable under recommended storage conditions

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Heat, flames and sparks.

Incompatible materials

Strong oxidizing agents, Bases, Reducing agents, Amines

Hazardous Decomposition Products

Carbon oxides

Nitrogen oxides (NO_x)

Isocyanates

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	May cause sensitization by inhalation. May cause drowsiness or dizziness.
Eye contact	Contact with eyes may cause irritation. May cause redness and tearing of the eyes.
Skin contact	May cause skin irritation and/or dermatitis. May cause sensitization by skin contact.
Ingestion	Ingestion may cause irritation to mucous membranes.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
ACETONE 67-64-1	= 5800 mg/kg (Rat)	-	= 50100 mg/m ³ (Rat) 8 h
DIPHENYLMETHANEDIISOCYANATE 101-68-8	= 31600 mg/kg (Rat) = 9200 mg/kg (Rat)	-	= 369 mg/m ³ (Rat) 4 h
ETHANOL 64-17-5	= 7060 mg/kg (Rat)	-	= 124.7 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
DIPHENYLMETHANEDIISOCYANATE 101-68-8	-	Group 3	-	-
ETHANOL 64-17-5	A3	-	Known	X

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Not classifiable as a human carcinogen

NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Target Organ Effects

Central nervous system, Eyes, Respiratory system, Skin.

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 14160 mg/kg
ATEmix (dermal) 665704 mg/kg
ATEmix (inhalation-dust/mist) 119.4 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

13.4675 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility

No information available.

Chemical Name	Partition coefficient
ACETONE 67-64-1	-0.24
ETHANOL 64-17-5	-0.32

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated packaging Do not reuse container.

US EPA Waste Number D001

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
ACETONE 67-64-1	Ignitable
ETHANOL 64-17-5	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT

UN/ID no 1133
Proper shipping name: Adhesives, Limited Quantity (LQ)
Hazard Class 3
Packing Group II

Emergency Response Guide Number 128

IATA

UN/ID no ID 8000
Proper shipping name: Consumer commodity
Hazard Class 9
ERG Code 9L

IMDG

UN/ID no 1133
Proper shipping name: Adhesives, Limited Quantity (LQ)
Hazard Class 3
Packing Group II
EmS-No F-E, S-D

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDL Complies
EINECS/ELINCS Not determined
ENCS Not determined
IECSC Complies
KECL Complies
PICCS Complies
AICS Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] - 9016-87-9	1.0
DIPHENYLMETHANEDIISOCYANATE - 101-68-8	1.0

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic Health Hazard Yes
Fire hazard Yes
Sudden release of pressure hazard No
Reactive Hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
ACETONE 67-64-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
DIPHENYLMETHANEDIISOCYANATE 101-68-8	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
ETHANOL - 64-17-5	Carcinogen Developmental

• Ethanol is only considered a Proposition 65 developmental hazard when it is ingested as an alcoholic beverage

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
ACETONE 67-64-1	X	X	X
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] 9016-87-9	X	-	-
DIPHENYLMETHANEDIISOCYANATE 101-68-8	X	X	X
ETHANOL 64-17-5	X	X	X
~DIPHENYLMETHANE-4,4 ~DI-ISOCYANATE ~ 2536-05-2	X	-	-

U.S. EPA Label Information**EPA Pesticide Registration Number** Not applicable**WHMIS Hazard Class**

B2 - Flammable liquid, D2B - Toxic materials

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	Health hazards 2	Flammability 3	Instability 0	-
HMIS	Health hazards 2	Flammability 3	Physical hazards 0	Personal protection B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)**Revision Date** 16-May-2018**Disclaimer**

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet