

SAFETY DATA SHEET

M-Bond Curing Agent 600/610

SAFETY DATA SHEET IN ACCORDANCE WITH: SCHEDULE 1 OF HAZARDOUS PRODUCTS REGULATIONS (HPR) (WHMIS 2015)

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name M-Bond Curing Agent 600/610
Other Means of Identification Not applicable

Recommended use and restrictions

Recommended use Adhesives
Restrictions on use Anything other than the above.

Initial Supplier Identifier Company Identification

VISHAY MEASUREMENTS GROUP, INC.
Post Office Box 27777
Raleigh, NC 27611
USA
Telephone +1 919-365-3800
E-Mail (competent person) mm.us@vpgsensors.com

Emergency telephone number

Emergency Phone No. 1-800-424-9300 CHEMTREC (24 hours)
Languages spoken English, French

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with Schedule 1 of Hazardous products regulations (HPR) (WHMIS 2015)

Flammable liquid, Category 2
Acute toxicity (oral), Category 4
Skin Sensitizer, Category 1
Serious Eye Damage, Category 1
Respiratory Sensitizer Category 1
Specific target organ toxicity — single exposure, Category 3, Irritation to respiratory tract
Specific target organ toxicity — single exposure, Category 3, Narcotic effects
Carcinogen, Category 2

Label elements

Hazard Pictogram(s)



Signal Word(s)

DANGER

Hazard Statement(s)

Highly flammable liquid and vapour.
Harmful if swallowed.
May cause an allergic skin reaction.
Causes serious eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.

Precautionary Statement(s)

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Ground/bond container and receiving equipment.

SAFETY DATA SHEET

M-Bond Curing Agent 600/610

SAFETY DATA SHEET IN ACCORDANCE WITH: SCHEDULE 1 OF HAZARDOUS PRODUCTS REGULATIONS (HPR) (WHMIS 2015)

Use explosion-proof electrical/ventilating/lighting/equipment.
Use non-sparking tools.
Use only outdoors or in a well-ventilated area.
Take precautionary measures against static discharge.
Wear protective gloves/eye protection/face protection.
Wash hands and exposed skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid breathing vapours.
[In case of inadequate ventilation] wear respiratory protection.
Contaminated work clothing must not be allowed out of the workplace.
IF exposed or concerned: Get medical advice/attention.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/or shower. If skin irritation or rash occurs: Get medical advice/attention.
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
Take off contaminated clothing and wash before reuse.
Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Dispose of contents/container to hazardous waste collection point.

Other hazards

May form explosive peroxides.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances Not applicable

Mixtures

GHS Classification

Chemical Name	CAS No.	Concentration (%W/W)	Common name(s), synonym(s) of the substance	Hazard classification
Tetrahydrofuran	109-99-9	>25 - <95	Furan, tetrahydro-	Flammable liquid, Category 2 Acute toxicity (oral), Category 4 Eye irritation, Category 2 Specific target organ toxicity — single exposure, Category 3, Irritation to respiratory tract Specific target organ toxicity — single exposure, Category 3, Narcotic effects Carcinogen, Category 2 Specific Concentration Limit Eye Irritation - Category 2: C ≥ 25% Specific target organ toxicity — single exposure, Category 3, Irritation to respiratory tract: C ≥ 25% Specific target organ toxicity — single exposure, Category 3, Narcotic effects: C ≥ 25%

SAFETY DATA SHEET

M-Bond Curing Agent 600/610

SAFETY DATA SHEET IN ACCORDANCE WITH: SCHEDULE 1 OF HAZARDOUS PRODUCTS REGULATIONS (HPR) (WHMIS 2015)

1,2,4,5-Benzenetetracarboxylic Dianhydride	89-32-7	>5 - <25	Pyromellitic dianhydride	Serious Eye Damage, Category 1 Skin Sensitizer, Category 1 Respiratory Sensitizer Category 1
--	---------	----------	--------------------------	--

Prescribed Concentration Ranges used for trade secret purposes (Canada Gazette, Part II, Vol. 152, No. 8)

SECTION 4: FIRST AID MEASURES



Description of first aid measures

Self-protection of the first aider

Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Ensure adequate ventilation. Avoid breathing vapours. Avoid all contact. Contaminated clothing should be laundered before reuse.

Inhalation

IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. If unconscious, place in recovery position and get medical attention immediately. Apply artificial respiration if necessary (do not employ mouth-to-mouth method).

Skin Contact

IF ON SKIN: Remove contaminated clothing and wash all affected areas with plenty of water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention.

Eye Contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Hold eye open and rinse slowly and gently with water for 15-20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion

IF SWALLOWED: Rinse mouth. Make victim drink plenty of water. Do not give anything by mouth to an unconscious person. Do not induce vomiting unless instructed to do so by medical personnel. Call a POISON CENTER/doctor if you feel unwell. IF exposed or concerned: Get medical advice/attention.

Most important symptoms and effects, both acute and delayed

Harmful if swallowed. May cause an allergic skin reaction. Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness. Suspected of causing cancer.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Treatment by an ophthalmologist due to possible caustic burn of the eyes may be required.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

As appropriate for surrounding fire. Extinguish with carbon dioxide, dry chemical, foam or waterspray.

Unsuitable extinguishing Media

Do not use water jet. Direct water jet may spread the fire.

Special hazards arising from the substance or mixture

Highly flammable liquid and vapour. May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide, Phenolic and Explosive Peroxides. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback. Prevent liquid entering sewers, basements and workpits; vapour may create explosive atmosphere. May form explosive peroxides.

Special protective equipment and precautions for fire fighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers.

SAFETY DATA SHEET

M-Bond Curing Agent 600/610

SAFETY DATA SHEET IN ACCORDANCE WITH: SCHEDULE 1 OF HAZARDOUS PRODUCTS REGULATIONS (HPR) (WHMIS 2015)

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Stop leak if safe to do so. Eliminate all ignition sources if safe to do so. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use personal protective equipment as required. See Section: 8. Avoid breathing vapours.

Environmental precautions

Avoid release to the environment. Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.

Methods and material for containment and cleaning up

Use non-sparking equipment when picking up flammable spill. Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Ventilate the area and wash spill site after material pick-up is complete. Dispose of this material and its container as hazardous waste See Section: 8, 13

Reference to other sections

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Ensure operatives are trained to minimise exposures. Avoid all contact. Do not breathe

vapour. Ensure adequate ventilation. Wear appropriate personal protective equipment, avoid direct contact. Use personal protective equipment as required. See Section: 8. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Contaminated clothing should be laundered before reuse.

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Keep away from heat, sources of ignition and direct sunlight. Ambient. Keep at temperature not exceeding (°C): 27

Conditions for safe storage, including any incompatibilities

Storage temperature

Incompatible materials

Keep away from: Flammable liquids, Strong oxidising agents, corrosive substances, strong acid and bases

Specific end use(s)

See Section: 1.2

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational Exposure Limits

Substance	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note	Source
Tetrahydrofuran	109-99-9	50	-	100	-	Skin; A3	ACGIH

Source:

ACGIH: American Conference of Governmental Industrial Hygiene TLV: Threshold limit value 2021

Notes:

Skin: Can be readily absorbed through intact skin, mucous membranes, eyes.

A3: Confirmed Animal Carcinogen with Unknown Relevance to Humans

SUBSTANCE	CAS No.	8-hour Occupational Exposure Limits			15-minute Or ceiling Occupational Exposure Limits		Note
		ppm	mg/m ³	f/cc	STEL (ppm)	STEL (mg/m ³)	
Tetrahydrofuran	109-99-9	50	147	-	100	295	Alberta, 1
		100	300	-	-	-	OEL

Source: Alberta - Occupational Health And Safety Code, 2020

OEL: Quebec Work Health and Safety Regulations (chapter S – 2.1, a. 223)

Notes:

1: Can be readily absorbed through intact skin.

Biological limit value

None assigned.

SAFETY DATA SHEET

M-Bond Curing Agent 600/610

SAFETY DATA SHEET IN ACCORDANCE WITH: SCHEDULE 1 OF HAZARDOUS PRODUCTS REGULATIONS (HPR) (WHMIS 2015)

Exposure controls

Ensure operatives are trained to minimise exposures. Ensure adequate ventilation. Atmospheric levels should be controlled in compliance with the occupational exposure limit. A washing facility/water for eye and skin cleaning purposes should be present.

Appropriate engineering controls

General hygiene measures for the handling of chemicals are applicable. Keep good industrial hygiene. Avoid all contact. Avoid breathing vapours. Wash hands before breaks and after work. Keep work clothes separately. Do not eat, drink or smoke at the work place.

IF exposed: Flush with fresh water if contact with skin or eyes.

Individual protection measures, such as personal protective equipment (PPE)

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Eye/face protection



Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection (EN166).

Skin protection



Hand protection:

Wear impervious gloves (EN374). Protective index 6, corresponding > 480 minutes of permeation time according to EN 374.

Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Recommended:: Polyethylene-Nylon Laminate Gauntlet

Body protection:

Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection



In case of inadequate ventilation wear respiratory protection. A suitable mask with filter type A (EN141 or EN405) may be appropriate.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Almost colourless to pale yellow / Amber Liquid
Odour	Ether-like Odour
Odour threshold	Not available.
pH	Not established.
Melting point/freezing point	Not established.
Initial boiling point and boiling range	66°C (Mixture)
Flash point	-14°C (Tetrahydrofuran) [Closed cup]
Evaporation rate (Water = 1)	>1
Flammability (solid, gas)	Not applicable - Liquid
Upper/lower flammability or explosive limits	Flammable Limits (Lower) (%v/v): 1.8, Flammable Limits (Upper) (%v/v) 11.8.
Vapour pressure	145 mmHg @ 15°C
Vapour density	2.5 (Air = 1)
Relative density	0.9 g/cm ³ (H ₂ O = 1) (Mixture)
Solubility(ies)	Soluble in: Water

SAFETY DATA SHEET

M-Bond Curing Agent 600/610

SAFETY DATA SHEET IN ACCORDANCE WITH: SCHEDULE 1 OF HAZARDOUS PRODUCTS REGULATIONS (HPR) (WHMIS 2015)

Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive. May form explosive peroxides.
Oxidising properties	Not oxidising.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions. May form peroxides on prolonged storage if air is present.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Highly flammable liquid and vapour. The vapour may be invisible, heavier than air and spread along ground. May form explosive peroxides. Contact with aliphatic amines will cause irreversible polymerization with considerable heat build-up. May polymerise on prolonged heating.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from direct sunlight. Keep at a temperature not exceeding (°C): 32. Avoid contact with air. Avoid contact with heat and ignition sources and oxidizers. Avoid distillation to dryness, which can form explosive peroxides.
Incompatible materials	Oxidizing agents, Corrosive Substances, Reducing agent, Strong Acids and Alkalis. Mild steel. Reacts violently with - Oxidizing agents and Acids.
Hazardous decomposition product(s)	May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide, Phenolic and Explosive Peroxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects	
Acute toxicity - Ingestion	Mixture: Acute Toxicity (oral), Category 4; Harmful if swallowed. Acute Toxicity Estimate Mixture Calculation: Estimated LD50 >300 ≤ 2,000 mg/kg.
Tetrahydrofuran	Acute Toxicity (oral), Category 4; Harmful if swallowed. LD50: 1650 mg/kg/BW ECHA registration dossier
Acute toxicity - Inhalation	Mixture: Based upon the available data, the classification criteria are not met.
Acute toxicity - Skin Contact	Mixture: Based upon the available data, the classification criteria are not met.
Skin corrosion/irritation	Mixture: Based upon the available data, the classification criteria are not met.
Serious eye damage/irritation	Mixture: Serious eye damage, Category 1; Causes serious eye damage.
Tetrahydrofuran	Eye irritation, Category 2; Causes eye irritation. (SCL ≥ 25%). Test Result: Corrosive to eyes. (rabbit) (Unnamed publication, 1971). Harmonised Classification; ECHA registration dossier
1,2,4,5-Benzenetetracarboxylic Dianhydride	Serious eye damage, Category 1; Causes serious eye damage. Test Result: Corrosive to eyes. OECD 405 (rabbit) Harmonised Classification; ECHA registration dossier
Respiratory or skin sensitization	Mixture: Skin sensitizer, Category 1; May cause an allergic skin reaction.
1,2,4,5-Benzenetetracarboxylic Dianhydride	Respiratory sensitizer, Category 1; May cause allergy or asthma symptoms or breathing difficulties if inhaled. Skin sensitizer, Category 1; May cause an allergic skin reaction. Respiratory sensitizer, Category 1; May cause allergy or asthma symptoms or breathing difficulties if inhaled. Test Result: Adverse effects observed (Sensitizing). OECD 429 and EU Method B.42 (Mouse) (Unnamed publication, 2009). Test Result: Severely irritating to respiratory system. (rat) (Unnamed publication, 1989) Harmonised Classification; ECHA registration dossier
Germ cell mutagenicity	Mixture: Based upon the available data, the classification criteria are not met.
Carcinogenicity	Mixture: Carcinogen, Category 2; Suspected of causing cancer.
Tetrahydrofuran	Carcinogen, Category 2; Suspected of causing cancer. EU Harmonised Classification.
Reproductive toxicity	Mixture: Based upon the available data, the classification criteria are not met.

SAFETY DATA SHEET

M-Bond Curing Agent 600/610

SAFETY DATA SHEET IN ACCORDANCE WITH: SCHEDULE 1 OF HAZARDOUS PRODUCTS REGULATIONS (HPR) (WHMIS 2015)

STOT - single exposure

Mixture: STOT-single exposure, Category 3; May cause respiratory irritation. STOT-single exposure, Category 3; May cause drowsiness or dizziness.
Tetrahydrofuran STOT-single exposure, Category 3; May cause respiratory irritation. (SCL ≥ 25%).
EU Harmonised Classification.
STOT-single exposure, Category 3; May cause drowsiness or dizziness.
Test Result: Irritation to respiratory tract (Rat), LC50: 375mg/L air (Unnamed publication, 1979).
Test Result: Central nervous depression, NOEC (rats): 500ppm (Malley et al, 2001)

STOT - repeated exposure Aspiration hazard

Mixture: Based upon the available data, the classification criteria are not met.
Mixture: Based upon the available data, the classification criteria are not met.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Based upon the available data, the classification criteria are not met.
Estimated Mixture LC50 >100 mg/l (Fish)

Persistence and degradability

No data for the mixture as a whole.
Tetrahydrofuran Inherently Biodegradable in water
1,2,4,5-Benzenetetracarboxylic Dianhydride Read across: Pyromellitic acid PMA
Readily biodegradable.
Degradation in water (28 days): 100% (OECD 301 B)

Bioaccumulative potential

No data for the mixture as a whole.
Tetrahydrofuran Low bioaccumulative potential (log Kow ≤ 3)
1,2,4,5-Benzenetetracarboxylic Dianhydride The product has low potential for bioaccumulation. Bioconcentration factor (BCF):1.0 Log Pow: < -2

Mobility in soil

No data for the mixture as a whole.
Tetrahydrofuran Test not required. Low partition coefficient n-octanol/water (REACH Annex VIII, column EU Data 2)
ECHA registration dossier
1,2,4,5-Benzenetetracarboxylic Dianhydride The substance has high mobility in soil.
Log Koc: 0.155 (OECD 121 and EU Method C.19)

Other adverse effects

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Dispose of this material and its container as hazardous waste. Send after pre-treatment to a appropriate hazardous waste incinerator facility according to legislation. Dispose of contents in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA/ICAO
14.1 UN number	UN 1133	UN 1133	UN 1133
14.2 UN proper shipping name	ADHESIVES containing flammable liquid	ADHESIVES containing flammable liquid	ADHESIVES containing flammable liquid
14.3 Transport hazard class(es)	3	3	3
14.4 Packing group	II	II	II
14.5 Environmental hazards	Not classified	Not classified as a Marine Pollutant.	Not classified
14.6 Special precautions for user	Not applicable		
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	See Section: 2		

SAFETY DATA SHEET

M-Bond Curing Agent 600/610

SAFETY DATA SHEET IN ACCORDANCE WITH: SCHEDULE 1 OF HAZARDOUS PRODUCTS REGULATIONS (HPR) (WHMIS 2015)

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

CEPA, Domestic Substances List
CEPA, Non-Domestic Substances List (NDSL)
CEPA, Priority Substances List
CEPA, List of Toxic Substances (Schedule 1)
CEPA, National Pollutant Release Inventory
CEPA, Environmental Emergency Regulations

Listed: Tetrahydrofuran; 1,2,4,5-Benzenetetracarboxylic Dianhydride
Listed: 1,2,4,5-Benzenetetracarboxylic acid
All chemicals are not listed
Tetrahydrofuran: listed (VOC)
Tetrahydrofuran: listed (VOC)
All chemicals are not listed

Non-Regional

IARC Monographs, List of Classifications

Tetrahydrofuran IARC Classification: Group 2B.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: Not applicable – V1.0

Version: 1.0

Date of Issue: 05 May 2022

Date of First Issue: 05 May 2022

References:

Existing Safety Data Sheet (SDS). Harmonised Classification(s) for Tetrahydrofuran (CAS No. 109-99-9) and 1,2,4,5-Benzenetetracarboxylic Dianhydride (CAS No. 89-32-7). Existing ECHA registration(s) for Tetrahydrofuran (CAS No. 109-99-9) 1,2,4,5-Benzenetetracarboxylic Dianhydride (CAS No. 89-32-7).

Literature References:

- Malley, L.A., Christoph G.R., Stadler, J.C., Hansen, J.F., Biesemeir, J.A. and Jasti, S. (2001). Acute and subchronic neurotoxicology evaluation of tetrahydrofuran by inhalation in rats. *Drug Chem. Toxicol.*, 24(3): 201-219

GHS Classification of the substance or mixture	Classification Procedure
Flammable Liquid, Category 2	Flash Point Test Result
Acute Toxicity - Oral, Category 4	Acute Toxicity Estimate (ATE) Calculation.
Skin Sensitizer, Category 1	Threshold Calculation
Eye Damage, Category 1	Threshold Calculation
Respiratory Sensitizer, Category 1	Threshold Calculation
STOT, Single Exposure, Category 3 - Respiratory Tract Irritation	Threshold Calculation
STOT, Single Exposure, Category 3 - Narcotic Effects	Threshold Calculation
Carcinogen, Category 2	Threshold Calculation

This safety data sheet was compiled in accordance with Schedule 1 of Hazardous products regulations (HPR) (WHMIS 2015)

LEGEND

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ACGIH	American Conference of Governmental Industrial Hygiene
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CEPA	Canadian Environmental Protection Act
EC	European Community
ECHA	European Chemicals Agency
EU	European Union
IATA	International Air Transport Association
IARC	International Agency for Research on Cancer
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
LC50	Lethal concentration at which 50% of the population is killed
LD50	Lethal dose at which 50% of the population is killed

SAFETY DATA SHEET

M-Bond Curing Agent 600/610

SAFETY DATA SHEET IN ACCORDANCE WITH: SCHEDULE 1 OF HAZARDOUS PRODUCTS REGULATIONS (HPR) (WHMIS 2015)

Date of issue: 05 May 2022
Date of First Issue: 05 May 2022
Version: 1.0

LTEL	Long term exposure limit
OECD	Organisation for Economic Cooperation and Development
OSHA	Occupational Safety and Health Administration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SCL	Specific Concentration Limit
STEL	Short term exposure limit
TLV	Threshold Limit Value
TWA	Time Weighted Average
UN	United Nations

Disclaimers

Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. Vishay Precision Group gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. Vishay Precision Group accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.



Disclaimer

ALL PRODUCTS, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Vishay Precision Group, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "VPG"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

The product specifications do not expand or otherwise modify VPG's terms and conditions of purchase, including but not limited to, the warranty expressed therein.

VPG makes no warranty, representation or guarantee other than as set forth in the terms and conditions of purchase. **To the maximum extent permitted by applicable law, VPG disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.**

Information provided in datasheets and/or specifications may vary from actual results in different applications and performance may vary over time. Statements regarding the suitability of products for certain types of applications are based on VPG's knowledge of typical requirements that are often placed on VPG products. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. You should ensure you have the current version of the relevant information by contacting VPG prior to performing installation or use of the product, such as on our website at vpgsensors.com.

No license, express, implied, or otherwise, to any intellectual property rights is granted by this document, or by any conduct of VPG.

The products shown herein are not designed for use in life-saving or life-sustaining applications unless otherwise expressly indicated. Customers using or selling VPG products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify VPG for any damages arising or resulting from such use or sale. Please contact authorized VPG personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

Copyright Vishay Precision Group, Inc., 2014. All rights reserved.