

SAFETY DATA SHEET

Version: 3.0
Date of Issue: 02 May 2017
Date of First Issue: 03 September 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

SECTION 1: IDENTIFICATION

Product identifier used on the label	Gagekote #5 Part A	
Other means of identification	Not applicable	
Recommended use of the chemical and restrictions on use		
Recommended use	Epoxy / Urethane Curative	
Restrictions on use	Anything other than the above.	
Details of the supplier of the safety data sheet		
Supplier	VISHAY MEASUREMENTS GROUP, INC.	
Address of Supplier	Post Office Box 27777 Raleigh, NC 27611 USA	
Telephone	+1 919-365-3800	
Fax	+1 919-365-3945	
E-Mail (competent person)	mm.us@vishaypg.com	
Emergency telephone number	1-800-424-9300	CHEMTREC (24 hours)

SECTION 2: HAZARD(S) IDENTIFICATION

Classification of the substance or mixture in accordance with paragraph (d) of 29 CFR 1910.1200

Physical hazards	Not classified
Health hazards	Skin corrosion/irritation, Category 1 Skin Sensitisation, Category 1 Eye damage, Category 1 Specific target organ toxicity — single exposure, Category 3 Carcinogen, Category 1
Environmental hazards	Hazardous to the aquatic environment, Chronic, Category 3

Hazard Symbol



Signal Word(s)

DANGER

Hazard Statement(s)

Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause cancer.
Harmful to aquatic life with long lasting effects.

Precautionary Statement(s)

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe vapour.
Wear protective gloves/protective clothing/eye protection/face protection.
Contaminated work clothing should not be allowed out of the workplace.
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation or rash occurs: Get medical advice/attention.

SAFETY DATA SHEET

Version: 3.0

Date of Issue: 02 May 2017

Date of First Issue: 03 September 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

Store locked up.

Dispose of contents in accordance with local, state or national legislation.

Other hazards

None known.

Percent of the mixture consists of ingredient(s) of unknown acute toxicity:

0%

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances Not applicable

Mixtures Substances in preparations / mixtures

Chemical identity of the substance	%W/W	CAS No.	EC No.	Hazard classification
Polysulfid, polymer /1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na ₂ (S _x)), reduced Propane	70 - 75	68611-50-7	691-651-5	Skin corrosion/irritation, Category 2 Eye Irritation, Category 2 Specific target organ toxicity — single exposure, Category 3 Hazardous to the aquatic environment, Chronic, Category 3
Talc	20 - 25	14807-96-6	238-887-9	Not classified
2,4,6-tris(dimethylaminomethyl)phenol	3 - 5	90-72-2	202-013-9	Acute toxicity, Category 4 (Oral) Skin corrosion/irritation, Category 1 Skin Sensitisation, Category 1 Eye damage, Category 1
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica*	1 - 3	68909-20-6	272-697-1	Not classified
Quartz (Silica, respirable Crystalline)	<0.2	14808-60-7	238-878-4	Carcinogen, Category 1A Specific target organ toxicity — repeated exposure, Category 1 Specific target organ toxicity — single exposure, Category 3

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. Apply artificial respiration if necessary (do not employ mouth-to-mouth method). It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Inhalation

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Apply artificial respiration if breathing has ceased or shows signs of failing. Get medical advice/attention if you feel unwell.

Skin Contact

IF ON SKIN (or hair): After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of soap and water. If irritation (redness, rash, blistering) develops, get medical attention.

SAFETY DATA SHEET

Version: 3.0
Date of Issue: 02 May 2017
Date of First Issue: 03 September 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

Eye Contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Immediately call a POISON CENTER/doctor. Treatment by an ophthalmologist due to possible caustic burn of the eyes may be required.
Ingestion	Rinse mouth with water (do not swallow). Do NOT induce vomiting. If vomiting occurs turn patient on side. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. IF exposed or concerned: Call a POISON CENTER/doctor.
Most important symptoms and effects, both acute and delayed	Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause respiratory irritation. May cause cancer.
Indication of any immediate medical attention and special treatment needed	Treat symptomatically. The onset of toxic effects may be delayed for hours, keep affected person under medical observation.
Notes to a physician:	IF INHALED: Breathing difficulties may appear with several hours delay. IF IN EYES: Treatment by an ophthalmologist due to possible caustic burn of the eyes may be required.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	As appropriate for surrounding fire. Extinguish preferably with foam, carbon dioxide or dry chemical.
Suitable Extinguishing Media	Do not use water jet. Direct water jet may spread the fire.
Unsuitable extinguishing Media	Not flammable. May decompose in a fire giving off toxic fumes. Combustion products: Carbon monoxide, Carbon dioxide, Nitrogen oxides and Ammonia may be formed. May give off noxious and toxic fumes in a fire.
Special hazards arising from the substance or mixture	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.
Special protective equipment and precautions for fire fighters	

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Ensure operatives are trained to minimise exposures. Contaminated clothing should be laundered before reuse. Ensure adequate ventilation. Avoid breathing vapours. Avoid all contact.
Large spillages:	Evacuate the area and keep personnel upwind. Only trained and properly protected personnel must be involved in clean-up operations.
Methods and material for containment and cleaning up	Contain spillages with sand, earth or any suitable adsorbent material. Transfer to a container for disposal or recovery.
Small spillages:	Allow small spillages to evaporate provided there is adequate ventilation.
Large spillages:	Only trained and properly protected personnel must be involved in clean-up operations.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling	Ensure operatives are trained to minimise exposures. Ensure adequate ventilation. Wear appropriate personal protective equipment, avoid direct contact. Avoid breathing vapours. Avoid all contact. In case of insufficient ventilation, wear suitable respiratory equipment. Keep good industrial hygiene. Wash hands thoroughly after handling. Contaminated clothing should be thoroughly cleaned. Do not eat, drink or smoke at the work place. Keep from direct sunlight.
Conditions for safe storage, including any incompatibilities	Keep only in original container. Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources.
Storage temperature	Store at ambient temperature.
Incompatible materials	Strong oxidising agents, Acids and Bases. Organic acids (e.g. acetic acid, citric acid), Mineral acids. Sodium hypochlorite.

SAFETY DATA SHEET

Version: 3.0
Date of Issue: 02 May 2017
Date of First Issue: 03 September 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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
Talc (containing no asbestos and less than 1% quartz)	14807-96-6	-	2	-	-	NIOSH Respirable Dust
		20 mppcf ^a	-	-	-	OSHA
		-	2	-	-	ACGIH, A4
Quartz (SiO ₂) (crystalline silica)	14808-60-7	-	0.05	-	-	NIOSH
		-	30	-	-	OSHA Total Dust
		-	10	-	-	Respirable Dust
		-	0.025	-	-	ACGIH, A2

Note: OSHA PELs 1910.1000 TABLE Z-3 / NIOSH RELs / ACGIH TLVs

A4: Not Classifiable as a Human Carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of the lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories.

A2: Suspected Human Carcinogen: Human data are accepted as adequate in quality but are conflicting or insufficient to classify the agent as a confirmed human carcinogen; OR, the agent is carcinogenic in experimental animals at dose(s), by route(s) of exposure, at site(s), of histological type(s), or by mechanism(s) considered relevant to worker exposure. The A2 is primarily when there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals with relevance to humans.

Mppcf^a: Millions of particles per cubic foot of air

The other components listed in Section 3 do not have occupational exposure limits.

Biological Exposure Indices

Not established

Appropriate engineering controls

Ensure adequate ventilation. Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources. Atmospheric levels should be controlled in compliance with the occupational exposure limit.

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

Keep good industrial hygiene. Wear appropriate personal protective equipment, avoid direct contact. Avoid breathing vapours. Avoid all contact. IF exposed: Wash immediately with water. Wash contaminated clothing before reuse. Do not eat, drink or smoke at the work place.

Eye/face protection



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

Skin protection



Hand protection:

Wear impervious gloves. Protective index 6, corresponding > 480 minutes of permeation time. Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Suitable materials: Butyl rubber, Nitrile rubber, Neoprene.

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.

SAFETY DATA SHEET

Version: 3.0

Date of Issue: 02 May 2017

Date of First Issue: 03 September 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Red Liquid
Odor	Mercaptan odor
Odor Threshold	Not established
pH	Not established
Melting Point/Freezing Point	Not established
Initial boiling point and boiling range	Not established
Flash Point	200 °C [Closed cup]
Evaporation rate (Butyl acetate = 1)	Not established
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	Not applicable
Vapour pressure	Not applicable
Vapour density	Not applicable
Relative density	Not established
Solubility(ies)	Partly soluble in water.
Partition coefficient: n-octanol/water	Not established
Auto-ignition temperature	Not established
Decomposition Temperature	Not established
Viscosity	Moderate viscosity

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Stable under normal conditions. Hazardous polymerisation will not occur.
Conditions to avoid	Heat
Incompatible materials	Strong oxidising agents, Acids and Bases. Organic acids (e.g. acetic acid, citric acid), Mineral acids. Sodium hypochlorite
Hazardous decomposition product(s)	Combustion products: Carbon monoxide, Carbon dioxide, Nitrogen oxides and Ammonia may be formed. May give off noxious and toxic fumes in a fire.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects (Substances in preparations / mixtures)

Acute toxicity - Ingestion	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
2,4,6-tris(dimethylaminomethyl)phenol:	LD50 (oral) mg/kg: 1916 – 2455 (OECD 401)
Acute toxicity - Inhalation	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 >20.0 mg/l.
Acute toxicity - Skin Contact	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
Skin corrosion/irritation	Skin corrosion/irritation, Category 1; Causes severe skin burns and eye damage.
2,4,6-tris(dimethylaminomethyl)phenol:	Test Result: Corrosive (OECD 404)
Serious eye damage/irritation	Eye damage, Category 1; Causes serious eye damage.
2,4,6-tris(dimethylaminomethyl)phenol:	Test Result: Corrosive (CPSC guidelines in CFR 16)
Respiratory or skin sensitization	Skin Sensitisation, Category 1; May cause an allergic skin reaction.
2,4,6-tris(dimethylaminomethyl)phenol:	Test Result: Skin Sensitisation (guinea pig) - Positive (OECD 406)
Germ cell mutagenicity	Based upon the available data, the classification criteria are not met.

SAFETY DATA SHEET

Version: 3.0

Date of Issue: 02 May 2017

Date of First Issue: 03 September 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

Carcinogenicity

Quartz (Silica, respirable Crystalline):

Carcinogen, Category 1; May cause cancer.

IARC Classification: Group 1.

NTP Report on Carcinogens

Suspected of causing cancer by inhalation.

(Checkoway et al., 1993)(Rice et al., 2001) (Rafnsson V et al, 1997)

Route of Exposure: Inhalation into Lungs

Causes irritation. Inflammation. Leading to Silicosis and eventually tumour formation. (SIAM 32, 19-21 April 2011)

Reproductive toxicity

STOT - single exposure

Quartz (Silica, respirable Crystalline):

STOT - repeated exposure

Quartz (Silica, respirable Crystalline):

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

Specific target organ toxicity — single exposure, Category 3; May cause respiratory irritation.

Irritating to respiratory system. (IARC (1997) and SITTIG (4th, 2002))

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

Prolonged and/or massive exposure to fine fraction crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica. (Ziskind et al., 1976; IARC, 1987)

Aspiration hazard

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

Information on likely routes of exposure

Inhalation

Ingestion

Skin Contact

Eye Contact

Possible – accidental exposure

Unlikely – accidental exposure

Possible – accidental exposure

Unlikely – accidental exposure

Early onset symptoms related to exposure

Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause respiratory irritation.

Delayed health effects from exposure

May cause cancer. The onset of toxic effects may be delayed for hours, keep affected person under medical observation.

IF INHALED: Breathing difficulties may appear with several hours delay.

Other information

NTP Report on Carcinogens

IARC Monographs

OSHA Designated Carcinogen

Quartz (Silica, respirable Crystalline) - Group K: Known To Be Human Carcinogens

Talc - Group 3: Not classifiable as to its carcinogenicity to humans.

Quartz (Silica, respirable Crystalline) - Group 1: Carcinogenic to humans

Not listed.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Polysulfid, polymer /1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na₂(Sx)), reduced Propane:

Persistence and degradability

Bioaccumulative potential

Mobility in soil

Other adverse effects

Aquatic Chronic 3; Harmful to aquatic life with long lasting effects.

Estimated Mixture LC50 > 10 to ≤ 100 mg/l. (Fish)

EC50 10 mg/l (48hr (Daphnia magna)) (Rohm and Haas, 1994)

No data for the mixture as a whole.

No data for the mixture as a whole.

The product is predicted to have low mobility in soil. Partly soluble in water.

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Dispose of this material and its container as hazardous waste. Send after pre-treatment to an appropriate hazardous waste incinerator facility according to legislation.

Additional Information

Dispose of contents in accordance with local, state or national legislation.

SAFETY DATA SHEET



Version: 3.0
Date of Issue: 02 May 2017
Date of First Issue: 03 September 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA
UN number	UN 1760	UN 1760	UN 1760
UN proper shipping name	CORROSIVE LIQUID, N.O.S. (CONTAINS, 2,4,6-tris(dimethylaminomethyl)phenol)	CORROSIVE LIQUID, N.O.S. (CONTAINS, 2,4,6-tris(dimethylaminomethyl)phenol)	CORROSIVE LIQUID, N.O.S. (CONTAINS, 2,4,6-tris(dimethylaminomethyl)phenol)
Transport hazard class(es)	8	8	8
Packing group	III	III	III
Environmental hazards	Not classified	Not classified / Not classified as a Marine Pollutant.	Not classified
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable		
Special precautions for user	See Section: 2		

SECTION 15: REGULATORY INFORMATION

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

US Federal Regulations

TSCA (Toxic Substance Control Act)

Talc - Subject to 25,000 lb reporting threshold
2,4,6-tris(dimethylaminomethyl)phenol - Subject to 25,000 lb reporting threshold
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica - Subject to 25,000 lb reporting threshold
Quartz (Silica, respirable Crystalline) - Subject to 25,000 lb reporting threshold
Not listed.

EPCRA/SARA Section 302 Extremely Hazardous Substances

EPCRA Section 313 Toxics Release Inventory (TRI) Program

Not listed.

NIOSH Occupational Carcinogen List

Quartz (Silica, respirable Crystalline) - Listed

OSHA List of highly hazardous chemicals, toxics and reactives

Not listed.

NTP Report on Carcinogens (RoC) List

Quartz (Silica, respirable Crystalline) - Group K: Known To Be Human Carcinogens
Not listed.

Poison Prevention Packaging Act

US State Regulations

California State, Proposition 65 List

Quartz (Silica, respirable Crystalline) - Listed

California State, Safer Consumer Products Regulations

Talc - Candidate Chemicals List

Maine State, Toxic Chemicals in Children's Products Act

Quartz (Silica, respirable Crystalline) - Candidate Chemicals List

New Jersey State Worker and Community RTK Act

Quartz (Silica, respirable Crystalline) - COC list. CHC list

Pennsylvania State, Worker and Community RTK Act

Talc - RTKHSL. SHHSL

Quartz (Silica, respirable Crystalline) - RTKHSL. SHHSL

Rhode Island State, Hazardous Substances RTK Act

Talc - Hazardous Substance List

Quartz (Silica, respirable Crystalline) - Hazardous Substance List

Talc - Hazardous Substance List

Quartz (Silica, respirable Crystalline) - Hazardous Substance List

Non-Regional

IARC Monographs, List of Classifications

Talc - Group 3: Not classifiable as to its carcinogenicity to humans.

Quartz (Silica, respirable Crystalline) - Group 1: Carcinogenic to humans

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: New SDS Regulation compliant with HazCom 2012 format, all sections have been updated to include new information. Please review SDS with care.

Version 3.0
Revision Date 02 May 2017
Date of First Issue 03 September 2012

SAFETY DATA SHEET



Version: 3.0

Date of Issue: 02 May 2017

Date of First Issue: 03 September 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

References:

Existing Safety Data Sheet (SDS)

EU Data: Existing ECHA registration(s) for 2,4,6-tris(dimethylaminomethyl)phenol (CAS No. 90-72-2) and Talc (CAS No. 14807-96-6). The Classification and Labelling Inventory for Polysulfid, polymer /1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na₂(Sx)), reduced Propane (CAS No. 68611-50-7), Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica (CAS No. 68909-20-6) and Quartz (CAS No. 14808-60-7).

Literature References:

1. Checkoway, H., Heyer, N.J., Demers, P.A. & Breslow, N.E. (1993) Mortality among workers in the diatomaceous earth industry. Br. 1. ind. Med., 50, 586-597
2. Rice, F.L., Park, R., Stayner, L., Smith, R., Gilbert, S., and Checkoway, H. 2001. Crystalline silica exposure and lung cancer mortality in diatomaceous earth industry workers: a quantitative risk assessment. Occup Environ Med, 58(1):38-45.
3. Rafnsson V & Gunnarsdottir H, 1997, Lung cancer incidence among an Icelandic cohort exposed to diatomaceous earth and cristobalite., Scand J Work Environ Health, 23: 187 – 192. PMID:9243728.
4. INITIAL TARGETED ASSESSMENT PROFILE (Human Health), SIAM 32, 19-21 April 2011, OECD
5. Silica, Some Silicates, Coal Dust and para-Aramid Fibrils, IARC MONOGRAPHS ON THE EVALUATION OF CARCINOGENIC RISKS TO HUMANS, Volume 68 (1997)
6. 13th Report on Carcinogens, National Toxicology Program, 2014
7. Ziskind M, Jones RN, Weill H, 1976, Silicosis. American review of respiratory disease, 113:643–665.
8. Richard P Pohanish; Marshall Sittig, 2002, Sittig's handbook of toxic and hazardous chemicals and carcinogens, Norwich, N.Y., U.S.A. : Noyes Publications, ©2002.
9. Rohm & Haas, 1994, INITIAL SUBMISSION: CERTIFICATE OF AQUATIC TOXICITY TEST RESULTS FOR LP-3 LIQUID POLYSULPHIDE POLYMER IN DAPHNIA MAGNA, WITH COVER LETTER DATED 04/12/01

GHS Classification of the substance or mixture	Classification Procedure
Skin corrosion/irritation, Category 1	Threshold Calculation
Skin Sensitisation, Category	Threshold Calculation
Eye damage, Category 1	Threshold Calculation
Specific target organ toxicity — single exposure, Category 3	Threshold Calculation
Carcinogen, Category 1	Threshold Calculation
Hazardous to the aquatic environment, Chronic, Category 3	Summation Calculation

LEGEND

ACGIH: American Conference of Governmental Industrial Hygienists

BEI: Biological Exposure Indices (ACGIH)

IARC: International Agency for Research on Cancer

Irr: Irritation

NIOSH: National Institute of Occupational Safety and Health

NTP: National Toxicology Program

OSHA: The Occupational Safety & Health Administration

PBT: Persistent, Bioaccumulative and Toxic

PEL: Permissible exposure limit

REL: Recommended exposure limit

SCL: Specific Concentration Limit

Skin^o: Risk of overexposure via dermal contact

STEL: Short Term Exposure Limit

TLV: Threshold Limit value

TSCA: Toxic Substance Control Act

TWA: Time Weighted Average

URT: Upper respiratory tract

vPvB: very Persistent and very Bioaccumulative

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

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.