

# SAFETY DATA SHEET

Revision: 2.1 Date: 30.09.2015

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),  
1272/2008 (CLP) & 2015/830

www.vishaypg.com

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

- 1.1 Product identifier**  
Product Name PCH-6 PCH-6C PCH-11 PCH-11C PLH-2 PLH-3  
Chemical Name Mixture  
CAS No. Mixture  
EINECS No. Mixture  
REACH Registration No. None assigned.
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**  
Identified Use(s) Photostress® measurements.  
Uses Advised Against None known.
- 1.3 Details of the supplier of the safety data sheet**  
Company Identification VISHAY MEASUREMENTS GROUP, INC.  
Post Office Box 27777  
Raleigh, NC 27611  
USA  
Telephone 919-365-3800  
Fax 919-365-3945  
E-Mail (competent person) mm.us@vishaypg.com
- 1.4 Emergency telephone number** 1-800-424-9300  
CHEMTREC

## 2. SECTION 2: HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

- 2.1.1 GHS Classification** Skin Corr. 1B; H314  
Skin Sens. 1; H317  
Acute Tox. 3; H331  
Aquatic Acute 1; H400  
Aquatic Chronic 1; H410

### 2.2 Label elements

Product Name PCH-6 PCH-6C

Hazard Pictogram(s)



Signal Word(s) Danger

Contains: Styrene, oligomers, 2,2'-Iminodi(ethylamine) and Nonylphenol.

Hazard Statement(s)  
H314: Causes severe skin burns and eye damage.  
H317: May cause an allergic skin reaction.  
H331: Toxic if inhaled.  
H400: Very toxic to aquatic life.  
H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statement(s)  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all

# SAFETY DATA SHEET

Revision: 2.1 Date: 30.09.2015

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),  
1272/2008 (CLP) & 2015/830

www.vishaypg.com

contaminated clothing. Rinse skin with water/shower.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
P310: Immediately call a POISON CENTER or doctor/physician.

2.3 Other hazards

None

## 3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixtures

GHS Classification

Chemical identity of the substance	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard Statement(s)
Fatty Acid Amide (9,12-Octadecadienoic acid (9Z,12Z)-, dimer, polymer with 3,3'-[oxybis(2,1-ethanediyloxy)]bis[1-propanamine])	70 - 75	68541-13-9	-	None assigned	Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 1; H410
Styrene, oligomers	18 - 20	9003-53-6	500-008-9	None assigned	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Acute Tox. 4; H332
2,2'-Iminodi(ethylamine)	6 - 8	111-40-0	203-865-4	None assigned	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Corr. 1B; H314 Skin Sens. 1; H317 Acute Tox. 2; H330 STOT SE 3; H335
Nonylphenol	< 3	25154-52-3	246-672-0	None assigned	Acute Tox. 4; H302 Skin Corr. 1B; H314 Repr. 2; H361fd Aquatic Acute 1; H400 Aquatic Chronic 1; H410

H226: Flammable liquid and vapour. H302: Harmful if swallowed. H312: Harmful in contact with skin. H314: Causes severe skin burns and eye damage. H315: Causes skin irritation. H317: May cause an allergic skin reaction. H319: Causes serious eye irritation. H330: Fatal if inhaled. H332: Harmful if inhaled. H335: May cause respiratory irritation. H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child. H400: Very toxic to aquatic life. H410: Very toxic to aquatic life with long lasting effects.

## 4. SECTION 4: FIRST AID MEASURES



### 4.1 Description of first aid measures

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Call a POISON CENTER/doctor.

Skin Contact

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Contaminated clothing should be thoroughly cleaned. Immediately call a POISON CENTER/doctor.

Eye Contact

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

Ingestion

IF SWALLOWED: Rinse mouth. Make victim drink plenty of water. Do not induce vomiting unless instructed to do so by medical personnel. Immediately call a POISON CENTER/doctor.

# SAFETY DATA SHEET

Revision: 2.1 Date: 30.09.2015

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),  
1272/2008 (CLP) & 2015/830

www.vishaypg.com

- |   |   |
|---|---|
| <b>4.2 Most important symptoms and effects, both acute and delayed</b>                | Causes severe skin burns and eye damage. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. May cause an allergic skin reaction. Toxic if inhaled.  |
| <b>4.3 Indication of any immediate medical attention and special treatment needed</b> | Treat symptomatically.<br>IF SWALLOWED: Immediately call a POISON CENTER/doctor. Suggest endotracheal/esophageal control if lavage is done.<br>IF INHALED: Call a POISON CENTER/doctor.<br>IF IN EYES: Obtain prompt consultation, preferably from an ophthalmologist. Chemical eye burns may require extended irrigation.<br>Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. |

## 5. SECTION 5: FIREFIGHTING MEASURES

- |  |  |
|--|--|
| <b>5.1 Extinguishing media</b><br>Suitable Extinguishing media<br><br>Unsuitable extinguishing media | As appropriate for surrounding fire. Extinguish preferably with foam, carbon dioxide or dry chemical.<br><br>Direct water jet may spread the fire. Do not direct a solid stream of water or foam into hot, burning pools; this may cause spattering and increase fire intensity. |
| <b>5.2 Special hazards arising from the substance or mixture</b>                                     | May decompose in a fire giving off toxic fumes. Decomposes in a fire giving off toxic fumes: Carbon monoxide, Carbon dioxide and Nitrogen oxides.  |
| <b>5.3 Advice for fire-fighters</b>  | 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.  |

## 6. SECTION 6: ACCIDENTAL RELEASE MEASURES

- |  |   |
|--|---|
| <b>6.1 Personal precautions, protective equipment and emergency procedures</b> | Avoid breathing vapours. Avoid all contact. Ensure adequate ventilation. Stop leak if safe to do so. Use personal protective equipment as required. See Section: 8.   |
| <b>6.2 Environmental precautions</b>   | Avoid release to the environment. Do NOT wash away into sewer. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.   |
| <b>6.3 Methods and material for containment and cleaning up</b>                | Ensure full personal protection (including respiratory protection) during removal of spillages. 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. |
| <b>6.4 Reference to other sections</b>   | See Section: 8, 13  |

## 7. SECTION 7: HANDLING AND STORAGE

- |  |  |
|--|--|
| <b>7.1 Precautions for safe handling</b>   | Avoid contact with skin, eyes or clothing. Do not breathe vapour. Ensure adequate ventilation. 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.   |
| <b>7.2 Conditions for safe storage, including any incompatibilities</b><br>Storage temperature<br>Storage life<br>Incompatible materials | Store in a well-ventilated place. Keep container tightly closed. Keep cool. Keep away from heat, sources of ignition and direct sunlight.<br>Ambient.<br>Stable under normal conditions.<br>Keep away from: Nitrosating agents, strong bases, Acids, Strong oxidising agents, Copper (Brass and Bronze) and Amines.<br>Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. |
| <b>7.3 Specific end use(s)</b>   | Photostress® measurements.   |

# SAFETY DATA SHEET

Revision: 2.1 Date: 30.09.2015

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),  
1272/2008 (CLP) & 2015/830

www.vishaypg.com

## 8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### 8.1.1 Occupational Exposure Limits

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m <sup>3</sup> )	STEL (ppm)	STEL (mg/m <sup>3</sup> )	Note
2,2'-Iminodi(ethylamine)	111-40-0	1	4.0	-	-	NIOSH

Note: National Institute for Occupational Safety and Health

#### 8.1.2 Biological limit value

Not established.

#### 8.1.3 PNECs and DNELs

Not established.

### 8.2 Exposure controls

#### 8.2.1 Appropriate engineering controls

Ensure adequate ventilation or use appropriate containment. Atmospheric levels should be controlled in compliance with the occupational exposure limit. Guarantee that the eye flushing systems and safety showers are located close to the working place.

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

General hygiene measures for the handling of chemicals are applicable. Avoid contact with skin, eyes or clothing. Do not breathe vapour. Wash hands before breaks and after work. Keep work clothes separately. 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 (EN166).

Skin protection



Hand protection: Wear impervious gloves (EN374). Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Recommended: Butyl rubber or Neoprene.

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

Respiratory protection



Work in well ventilated zones or use proper respiratory protection. Open system(s): Wear suitable respiratory protection.

Curing: Local exhaust ventilation is required. Guarantee sufficient ventilation during and after use, in order to prevent vapour accumulation.

Thermal hazards

Not applicable.

#### 8.2.3 Environmental Exposure Controls

Avoid release to the environment.

## 9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance	Brown coloured liquid
Odour	Faint Ammonia Odour
Odour threshold	Not available.
pH	Not established.
Melting point/freezing point	Not established.
Initial boiling point and boiling range	199 °C
Flash point	102 °C [Closed cup]
Evaporation rate	<1 (BuAc = 1)
Flammability (solid, gas)	Not applicable - Liquid.

# SAFETY DATA SHEET

Revision: 2.1 Date: 30.09.2015

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),  
1272/2008 (CLP) & 2015/830

www.vishaypg.com

Upper/lower flammability or explosive limits	Not available.
Vapour pressure	<1 (mmHg)
Vapour density	>1 (Air = 1)
Relative density	0.99 (H <sub>2</sub> O = 1)
Solubility(ies)	Insoluble in water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2 Other information None

## 10. SECTION 10: STABILITY AND REACTIVITY

10.1 Stability and reactivity	Stable under normal conditions.
10.2 Chemical stability	Stable under normal conditions.
10.3 Possibility of hazardous reactions	Reaction with some curing agents may produce considerable heat. Can react vigorously with strong Lewis or mineral acids and strong mineral and organic bases, especially primary and secondary aliphatic amines. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed.
10.4 Conditions to avoid	Keep away from heat, sources of ignition and direct sunlight.
10.5 Incompatible materials	Keep away from: Nitrosating agents, strong bases, Acids, Strong oxidising agents, Copper (Brass and Bronze) and Amines.
10.6 Hazardous decomposition product(s)	Decomposes in a fire giving off toxic fumes: Nitrogen oxides, Carbon monoxide and Carbon dioxide.

## 11. SECTION 11: TOXICOLOGICAL INFORMATION

11.1 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.
Inhalation	Acute Tox. 3: Toxic if inhaled. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 6.6 mg/l.
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 Corr. 1B: Causes severe skin burns.
Serious eye damage/irritation	Skin Corr. 1B: Causes serious eye damage.
Respiratory or skin sensitization	Skin Sens. 1: May cause an allergic skin reaction.
Germ cell mutagenicity	Based upon the available data, the classification criteria are not met.
Carcinogenicity	Based upon the available data, the classification criteria are not met.
Reproductive toxicity	Based upon the available data, the classification criteria are not met.
STOT - single exposure	Based upon the available data, the classification criteria are not met.
STOT - repeated exposure	Based upon the available data, the classification criteria are not met.
Aspiration hazard	Based upon the available data, the classification criteria are not met.
11.2 Other information	
NTP Report on Carcinogens	Not listed
IARC Monographs	Not listed

## 12. SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity	Aquatic Acute 1: Very toxic to aquatic life. Aquatic Chronic 1: Very toxic to aquatic life with long lasting effects.
---------------	--

# SAFETY DATA SHEET

Revision: 2.1 Date: 30.09.2015

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),  
1272/2008 (CLP) & 2015/830

www.vishaypg.com

12.2	<b>Persistence and degradability</b>	Estimated Mixture LC50 < 1 mg/l (Fish)
12.3	<b>Bioaccumulative potential</b>	Part of the components are poorly biodegradable.
12.4	<b>Mobility in soil</b>	No data for the mixture as a whole.
12.5	<b>Results of PBT and vPvB assessment</b>	The product is predicted to have low mobility in soil. Insoluble in water.
12.6	<b>Other adverse effects</b>	Not classified as PBT or vPvB. None known.

## 13. SECTION 13: DISPOSAL CONSIDERATIONS

13.1	<b>Waste treatment methods</b>	Do not release undiluted and unneutralised to the sewer. This material and its container must be disposed of as hazardous waste. Send after pre-treatment to a appropriate hazardous waste incinerator facility according to legislation.
13.2	<b>Additional Information</b>	Dispose of contents in accordance with local, state or national legislation.

## 14. SECTION 14: TRANSPORT INFORMATION

		<b>ADR/RID / IMDG / IATA</b>
14.1	<b>UN number</b>	UN 1760
14.2	<b>UN proper shipping name</b>	CORROSIVE LIQUID N.O.S (CONTAINS 2,2'-Iminodi(ethylamine) and Nonylphenol)
14.3	<b>Transport hazard class(es)</b>	8
14.4	<b>Packing group</b>	II
14.5	<b>Environmental hazards</b>	Classified as a Marine Pollutant/Environmentally hazardous substance.
14.6	<b>Special precautions for user</b>	See Section: 2
14.7	<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.
14.8	<b>Additional Information</b>	None

## 15. SECTION 15: REGULATORY INFORMATION

15.1	<b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>	
15.1.1	<b>National regulations</b>	
	OSHA Occupational Safety and Health Standards	None
15.1.2	<b>European regulations</b>	
	Authorisations and/or Restrictions On Use	Nonylphenol (CAS# 25154-52-3): REACH: ANNEX XVII restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles - Entry number: 46 .
	Substance(s) of Very High Concern (SVHCs)	None
15.1.2	<b>National regulations</b>	Water hazard class: 3
15.2	<b>Chemical Safety Assessment</b>	Not available.

## 16. SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1-16.

**References:** Existing Safety Data Sheet (SDS), Harmonised Classification(s) for 2,2'-iminodiethylamine (CAS# 111-40-0) and Nonylphenol (CAS# 25154-52-3). Existing ECHA registration(s) for 2,2'-iminodiethylamine (CAS# 111-40-0), and the Classification and Labelling Inventory for Fatty Acid Amide (9,12-Octadecadienoic acid (9Z,12Z)-, dimer, polymer with 3,3'-[oxybis(2,1-ethanediyloxy)]bis[1-propanamine]) (CAS# 68541-13-9) and Styrene, oligomers (CAS# 9003-53-6). DATA SOURCES: <http://webnet.oecd.org/ccrweb/ChemicalDetails.aspx?ChemicalID=60FC6DB0-EAD6-40B6-AC16-5292271FF276>

# SAFETY DATA SHEET

Revision: 2.1 Date: 30.09.2015

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),  
1272/2008 (CLP) & 2015/830

www.vishaypg.com

GHS Classification of the substance or mixture	Classification Procedure
Skin Corr. 1B; H314	Threshold Calculation
Skin Sens. 1; H317	Threshold Calculation
Acute Tox. 3; H331	Acute Toxicity Estimate Mixture Calculation
Aquatic Acute 1: H400	DATA SOURCES: Canadian EPA (CEPA)
Aquatic Chronic 1: H410	DATA SOURCES: Canadian EPA (CEPA)

## LEGEND

LTEL	Long Term Exposure Limit
STEL	Short Term Exposure Limit
DNEL	Derived No Effect Level
PNEC	Predicted No Effect Concentration
PBT	PBT: Persistent, Bioaccumulative and Toxic
vPvB	very Persistent and very Bioaccumulative
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
OSHA	The Occupational Safety & Health Administration
NIOSH	National Institute for Occupational Safety and Health

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.

## Annex to the extended Safety Data Sheet (eSDS)

No information available.

## 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](http://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.