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 UK LTD Stroudley Road Basingstoke Hampshire RG24 8FW United Kingdom
Telephone	+44 (0) 1256 462131
Fax	+44 (0) 1256 471441
E-Mail (competent person)	mm.uk@vishaypg.com

1.4 Emergency telephone number

(00-1) 703-527-3887
CHEMTREC

2. SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 Regulation (EC) No. 1272/2008 (CLP)

Skin Corr. 1B; H314
Skin Sens. 1; H317
Acute Tox. 3; H331
Aquatic Acute 1; H400
Aquatic Chronic 1; H410

2.2 Label elements

According to Regulation (EC) No. 1272/2008 (CLP)

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 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

EC Classification Regulation (EC) No. 1272/2008 (CLP)

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.
4.2	**Most important symptoms and effects, both acute and delayed**	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.
4.3	**Indication of any immediate medical attention and special treatment needed**	Treat symptomatically. IF SWALLOWED: Immediately call a POISON CENTER/doctor. Suggest endotracheal/esophageal control if lavage is done. IF INHALED: Call a POISON CENTER/doctor. IF IN EYES: Obtain prompt consultation, preferably from an ophthalmologist. Chemical eye burns may require extended irrigation. 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

5.1	**Extinguishing media**	
	Suitable Extinguishing media	As appropriate for surrounding fire. Extinguish preferably with foam, carbon dioxide or dry chemical.
	Unsuitable extinguishing media	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.
5.2	**Special hazards arising from the substance or mixture**	May decompose in a fire giving off toxic fumes. Decomposes in a fire giving off toxic fumes: Carbon monoxide, Carbon dioxide and Nitrogen oxides.
5.3	**Advice 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.

6. SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1	**Personal precautions, protective equipment and emergency procedures**	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.
6.2	**Environmental precautions**	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.
6.3	**Methods and material for containment and cleaning up**	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 (2008/98/EEC).
6.4	**Reference to other sections**	See Section: 8, 13

7. SECTION 7: HANDLING AND STORAGE

7.1	**Precautions for safe handling**	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.
7.2	**Conditions for safe storage, including any incompatibilities**	Store in a well-ventilated place. Keep container tightly closed. Keep cool. Keep away from heat, sources of ignition and direct sunlight.
	Storage temperature	Ambient.
	Storage life	Stable under normal conditions.
	Incompatible materials	Keep away from: Nitrosating agents, strong bases, Acids, Strong oxidising agents, Copper (Brass and Bronze) and Amines. Do not use sodium nitrite or other nitrosating agents in formulations containing

this product. Suspected cancer-causing nitrosamines could be formed.

7.3 Specific end use(s) Photostress® measurements.

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/m³)	STEL (ppm)	STEL (mg/m³)	Note
2,2'-Iminodi(ethylamine)	111-40-0	1	4.3	-	-	WEL

Note: WEL: Workplace Exposure Limit (UK HSE EH40)

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.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	<1 (mmHg)
Vapour density	>1 (Air = 1)
Relative density	0.99 (H_2O = 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 None.

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

13. SECTION 13: DISPOSAL CONSIDERATIONS

13.1	**Waste treatment methods**	Do not release undiluted and unneutralised to the sewer.This material and its container must be disposed of as hazardous waste (2008/98/EEC). Send after pre-treatment to a appropriate hazardous waste incinerator facility according to legislation.
13.2	**Additional Information**	Dispose of contents in accordance with local, state or national legislation.

14. SECTION 14: TRANSPORT INFORMATION

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

15. SECTION 15: REGULATORY INFORMATION

15.1	**Safety, health and environmental regulations/legislation specific for the substance or mixture**	
15.1.1	**EU regulations**	
	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	**National regulations**	Water hazard class: 3
15.2	**Chemical Safety Assessment**	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 (CAS# 68541-13-9)

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	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

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.

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Annex to the extended Safety Data Sheet (eSDS)

No information available.

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