

# SAFETY DATA SHEET

Revision: 2.0 Date: 27.07.2015



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

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

- 1.1 Product identifier**  
Product Name PCH-1 PCH-1C PCH-1T  
Chemical Name 2,2'-Iminodi(ethylamine)  
CAS No. 111-40-0  
EINECS No. 203-865-4  
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)** Acute Tox. 4; H302  
Acute Tox. 4; H312  
Skin Corr. 1B; H314  
Skin Sens. 1; H317  
Acute Tox. 2; H330  
STOT SE 3; H335
- 2.2 Label elements** According to Regulation (EC) No. 1272/2008 (CLP)
- Product Name PCH-1 PCH-1C PCH-1T
- Hazard Pictogram(s)  
- Signal Word(s) Danger
- Hazard Statement(s) H302: Harmful if swallowed.  
H312: Harmful in contact with skin.  
H314: Causes severe skin burns and eye damage.  
H317: May cause an allergic skin reaction.  
H330: Fatal if inhaled.  
H335: May cause respiratory irritation.
- Precautionary Statement(s) P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable

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for breathing.

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.

Additional Information

None

2.3 Other hazards

None

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

3.1 Substances

Chemical identity of the substance	CAS No.	EC No.	REACH Registration No.
2,2'-Iminodi(ethylamine)	111-40-0	203-865-4	None assigned

## 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. If breathing is laboured, oxygen should be administered by qualified personnel. If breathing has stopped, apply artificial respiration. Immediately 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

Harmful if swallowed. Harmful in contact with skin. Fatal if inhaled. May cause an allergic skin reaction. May cause respiratory irritation. 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.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. There is no specific antidote.

IF SWALLOWED: Immediately call a POISON CENTER/doctor. Suggest endotracheal/esophageal control if lavage is done.

IF INHALED: Immediately 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.

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## 5. SECTION 5: FIREFIGHTING MEASURES

- 5.1 Extinguishing media**  
Suitable Extinguishing media  
As appropriate for surrounding fire. Extinguish with carbon dioxide, dry chemical, foam or waterspray. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.
- Unsuitable extinguishing media  
Do not use water jet. Direct water jet may spread the fire.
- 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: Nitrogen oxides, Aldehydes, Carbon monoxide and Carbon dioxide, Ammonia and volatile Amines.
- 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**  
Ensure adequate ventilation. Keep upwind. Avoid breathing vapours. Avoid all contact. Stop leak if safe to do so. Wear suitable respiratory equipment. Use personal protective equipment as required. See Section: 8.
- 6.2 Environmental precautions**  
Avoid release to the environment. Floats on water. 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.
- 6.3 Methods and material for containment and cleaning up**  
Ensure full personal protection (including respiratory protection) during removal of spillages. Contain spillages. Absorb spillage in earth or sand. Do NOT use absorbent materials such as: Cellulose, Sawdust or Ground corn cobs. Transfer to a container for disposal. Use waterspray to 'knock down' vapour. 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 all contact. 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. Take precautionary measures against static discharge. Protect from moisture. Do not apply pressure to empty containers.
- 7.2 Conditions for safe storage, including any incompatibilities**  
Store under inert gas (e.g nitrogen) to prevent ingress of moisture or air into the container. If a container is part emptied flush thoroughly with inert gas prior to resealing. Keep container tightly closed and dry. Keep only in original container. Keep away from heat, sources of ignition and direct sunlight.  
Ambient.  
Bulk storage should be under nitrogen blanket.  
Keep away from: nitrosating agents, Strong oxidising agents, strong bases, Acids, Aldehydes, Alcohols, Copper (Brass, copper alloy and Bronze) and halogenated compounds.  
May react with: Aluminium and Zinc.  
Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed.
- Storage temperature  
Storage life  
Incompatible materials
- 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**

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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	4.3	-	-	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 all contact. Do not breathe vapour. Wash hands before breaks and after work. Keep work clothes separately. Contaminated leather articles should be discarded (e.g. shoes). 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: Polyethylene, Butyl rubber, Natural rubber, PVC, Nitrile rubber or Neoprene. The gloves type used must be chosen based on the work activity and duration as well as concentration/quantity of material being handled.
- Respiratory protection  In case of inadequate ventilation wear respiratory protection. Open system(s): Wear suitable respiratory protective equipment. Recommended: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard.
- 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	Almost colourless to pale yellow liquid
Odour	Amine-like Odour
Odour threshold	Not available.
pH	Not established.
Melting point/freezing point	Not established.
Initial boiling point and boiling range	199 °C
Flash point	103 °C
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	0.95 (H <sub>2</sub> O = 1)

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Solubility(ies)	100% 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	<b>Stability and reactivity</b>	Stable under normal conditions.
10.2	<b>Chemical stability</b>	Stable under normal conditions. May decompose if heated.
10.3	<b>Possibility of hazardous reactions</b>	Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed.
10.4	<b>Conditions to avoid</b>	Keep away from heat and sources of ignition. Take precautionary measures against static discharge. Protect from moisture.
10.5	<b>Incompatible materials</b>	Keep away from: nitrosating agents, Strong oxidising agents, strong bases, Acids, Aldehydes, Alcohols, Copper (Brass, copper alloy and Bronze) and halogenated compounds. May react with: Aluminium and Zinc.
10.6	<b>Hazardous decomposition product(s)</b>	Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Nitrogen oxides, Aldehydes, Carbon monoxide and Carbon dioxide, Ammonia and volatile Amines.

## 11. SECTION 11: TOXICOLOGICAL INFORMATION

11.1	<b>Information on toxicological effects (Substances in preparations / mixtures)</b>	
	<b>Acute toxicity</b>	
	Ingestion	Acute Tox. 4: Harmful if swallowed. (Existing ECHA registration(s) for 2,2'-Iminodi(ethylamine)triamine (CAS# 111-40-0)
	Inhalation	Acute Tox. 2: Fatal if inhaled. (Existing ECHA registration(s) for 2,2'-Iminodi(ethylamine)triamine (CAS# 111-40-0)
	Skin Contact	Acute Tox. 4: Harmful in contact with skin. (Existing ECHA registration(s) for 2,2'-Iminodi(ethylamine)triamine (CAS# 111-40-0)
	<b>Skin corrosion/irritation</b>	Skin Corr. 1B: Causes severe skin burns.
	<b>Serious eye damage/irritation</b>	Skin Corr. 1B: Causes serious eye damage.
	<b>Respiratory or skin sensitization</b>	Skin Sens. 1: May cause an allergic skin reaction.
	<b>Germ cell mutagenicity</b>	Based upon the available data, the classification criteria are not met.
	<b>Carcinogenicity</b>	Based upon the available data, the classification criteria are not met.
	<b>Reproductive toxicity</b>	Based upon the available data, the classification criteria are not met.
	<b>STOT - single exposure</b>	STOT SE 3: May cause respiratory irritation.
	<b>STOT - repeated exposure</b>	Based upon the available data, the classification criteria are not met.
	<b>Aspiration hazard</b>	Based upon the available data, the classification criteria are not met.
11.2	<b>Other information</b>	None.

## 12. SECTION 12: ECOLOGICAL INFORMATION

12.1	<b>Toxicity</b>	Based upon the available data, the classification criteria are not met. Estimated Mixture LC50 >100 mg/l (Fish)
12.2	<b>Persistence and degradability</b>	Readily biodegradable.
12.3	<b>Bioaccumulative potential</b>	The product has low potential for bioaccumulation.
12.4	<b>Mobility in soil</b>	The product is predicted to have high mobility in soil (Water Soluble).
12.5	<b>Results of PBT and vPvB assessment</b>	Not classified as PBT or vPvB.

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12.6 Other adverse effects None known.

## 13. SECTION 13: DISPOSAL CONSIDERATIONS

- 13.1 Waste treatment methods Do not apply pressure to empty containers. Containers of this material may be hazardous when empty since they retain product residue. 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 2927
- 14.2 UN proper shipping name TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (2,2'-Iminodi(ethylamine))
- 14.3 Transport hazard class(es) 6.1 + 8
- 14.4 Packing group II
- 14.5 Environmental hazards Not classified as a Marine Pollutant.
- 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
- Substance(s) of Very High Concern (SVHCs) None
- Authorisations and/or Restrictions On Use None
- 15.1.2 National regulations
- Wassergefährdungsklasse (Germany) Water hazard class: 2
- 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), Existing ECHA registration(s) for 2,2'-iminodi(ethylamine) (CAS# 111-40-0).

### 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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