

SAFETY DATA SHEET



Protector CH-3

1. Identification of the substance/preparation and of the company/undertaking

Product name : Protector CH-3
Code : 24004
Head Office : **Cookson Electronics** **Manufacturer** : Cookson Electronics Assembly Materials Group
 Forsyth Road
 Sheerwater
 Woking
 Surrey
 England
 GU21 5RZ
 Tel: +44(0)1483 758400
 Fax: +44(0)1483 728837
 Ashford Manufacturing Site
 Henwood Industrial Estate
 Hythe Road
 Ashford
 Kent
 England
 TN24 8DH
 Tel: +44 (0) 1233 610110
 Fax: +44 (0) 1233 664323

Material uses : Water-conditioning agent.

2. Composition/information on ingredients

Substance/preparation : Preparation

Chemical name*	CAS no.	%	EC Number	Classification
Europe triethanolamine 2,2'-Iminodiethanol	102-71-6 111-42-2	10 - 15 1 - 5	203-049-8 203-868-0	Not classified. Xn; R22, 48/22 Xi; R38, 41
See section 16 for the full text of the R Phrases declared above				

* Occupational Exposure Limit(s), if available, are listed in Section 8

* The classifications listed, indicate the potential hazards of the ingredients

3. Hazards identification

The preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : Not classified.
Skin contact : Slightly hazardous in case of skin contact (irritant).
Toxicity data : Not available.

4. First aid measures

First-Aid measures

General : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Obtain medical attention.

Ingestion : Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Skin Contact : In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Obtain medical attention.

Eye Contact : Check for and remove any contact lenses. In case of contact, immediately flush eyes with a copious amount of water for at least 15 minutes. Cold water may be used. Obtain medical attention.

5. Fire-fighting measures

- Extinguishing media** : Recommended: alcohol resistant foam, CO₂, powders, water spray.
Not to be used : waterjet.
- Special fire-fighting procedures** : Fire-fighters should wear self-contained positive pressure breathing apparatus (SCBA) and full turnout gear.
- Recommendations** : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Appropriate breathing apparatus may be required. Cool closed containers exposed to fire with water. Do not release runoff from fire to sewers or waterways.

6. Accidental release measures

- Personal Precautions** : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (Section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Environmental precautions and clean-up methods** : Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

- Handling** : Do not ingest. Do not breathe gas/fumes/vapour/spray. If ingested, seek medical advice immediately and show the container or the label.
- Hygiene measures** : Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.
- Storage** : Do not reuse container.
- Packaging materials**
- Recommended** : Use original container.

8. Exposure controls/personal protection

- Engineering measures** : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits.
- Hygiene measures** : Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

Ingredient name

Occupational exposure limits

Europe	
triethanolamine	ACGIH TLV (United States, 9/2004). TWA: 5 mg/m ³ 8 hour(s). Form: All forms
2,2'-Iminodiethanol	ACGIH TLV (United States, 9/2004). Skin Notes: 1994-1995 Adoption TWA: 2 mg/m ³ 8 hour(s). Form: All forms TWA: 0.46 ppm 8 hour(s). Form: All forms
Sweden	
triethanolamine	AFS (Sweden, 3/2000). KTV: 10 mg/m ³ 15 minute(s). Form: All forms NGV: 5 mg/m ³ 8 hour(s). Form: All forms
2,2'-Iminodiethanol	AFS (Sweden, 3/2000). Skin KTV: 30 mg/m ³ 15 minute(s). Form: All forms KTV: 6 ppm 15 minute(s). Form: All forms NGV: 15 mg/m ³ 8 hour(s). Form: All forms NGV: 3 ppm 8 hour(s). Form: All forms
Denmark	
triethanolamine	Arbejdstilsynet (Denmark, 10/2002). GV: 3.1 mg/m ³ 8 hour(s). Form: All forms GV: 0.5 ppm 8 hour(s). Form: All forms
2,2'-Iminodiethanol	Arbejdstilsynet (Denmark, 10/2002). Skin GV: 2 mg/m ³ 8 hour(s). Form: All forms GV: 0.46 ppm 8 hour(s). Form: All forms
Norway	

Protector CH-3

triethanolamine

Arbeidstilsynet (Norway, 12/2003).

AN: 5 mg/m³ 8 hour(s). Form: All forms

2,2'-Iminodiethanol

Arbeidstilsynet (Norway, 12/2003).

AN: 15 mg/m³ 8 hour(s). Form: All forms

AN: 3 ppm 8 hour(s). Form: All forms

France

2,2'-Iminodiethanol

INRS (France, 12/1999).

VME: 15 mg/m³ 8 hour(s). Form: All forms

VME: 3 ppm 8 hour(s). Form: All forms

Netherlands

triethanolamine

Nationale MAC-lijst (Netherlands, 1/2004). Notes:

TGG: 5 mg/m³ 8 hour(s). Form: All forms

2,2'-Iminodiethanol

Nationale MAC-lijst (Netherlands, 1/2004). Skin Notes:

TGG: 2 mg/m³ 8 hour(s). Form: All forms

TGG: 0.46 ppm 8 hour(s). Form: All forms

Germany

triethanolamine

TRGS900 MAK (Germany, 9/2003).

TWA: 5 mg/m³ 8 hour(s). Form: Inhalable fraction

2,2'-Iminodiethanol

TRGS900 MAK (Germany, 9/2003). Skin

TWA: 15 mg/m³ 8 hour(s). Form: Inhalable fraction

Finland

2,2'-Iminodiethanol

Työterveyslaitos (Finland, 12/2002). Skin

TWA: 2 mg/m³ 8 hour(s). Form: All forms

TWA: 0.46 ppm 8 hour(s). Form: All forms

United Kingdom (UK)

2,2'-Iminodiethanol

EH40-OES (United Kingdom (UK), 1/2003).

TWA: 13 mg/m³ 8 hour(s). Form: All forms

TWA: 3 ppm 8 hour(s). Form: All forms

propylene glycol

EH40-OES (United Kingdom (UK), 2002). Notes: OES

TWA: 10 mg/m³ 8 hour(s). Form: Particulate

TWA: 474 mg/m³ 8 hour(s). Form: Sum of vapor and particulates

TWA: 150 ppm 8 hour(s). Form: Sum of vapor and particulates

Where a MEL has been assigned, exposure should be reduced as low as is reasonably practicable and should not exceed the MEL.

Austria

triethanolamine

BMWA_MAK (Austria, 12/2003).

STEL: 10 mg/m³ 4 times per shift, 15 minute(s). Form: All forms

STEL: 1.6 ppm 4 times per shift, 15 minute(s). Form: All forms

TWA: 5 mg/m³ 8 hour(s). Form: All forms

TWA: 0.8 ppm 8 hour(s). Form: All forms

2,2'-Iminodiethanol

BMWA_MAK (Austria, 12/2003). Skin

STEL: 4 mg/m³ 4 times per shift, 15 minute(s). Form: All forms

STEL: 0.92 ppm 4 times per shift, 15 minute(s). Form: All forms

TWA: 2 mg/m³ 8 hour(s). Form: All forms

TWA: 0.46 ppm 8 hour(s). Form: All forms

Switzerland

2,2'-Iminodiethanol

SUVA (Switzerland, 12/2003).

MAK: 13 mg/m³ 8 hour(s). Form: All forms

MAK: 3 ppm 8 hour(s). Form: All forms

Belgium

triethanolamine

Lijst Grenswaarden / Valeurs Limites (Belgium, 10/2003).

TWA: 5 mg/m³ 8 hour(s). Form: All forms

2,2'-Iminodiethanol

Lijst Grenswaarden / Valeurs Limites (Belgium, 10/2003). Skin

TWA: 2 mg/m³ 8 hour(s). Form: All forms

TWA: 0.46 ppm 8 hour(s). Form: All forms

Czech Republic

triethanolamine

178/2001 (Czech Republic, 1/2001).

STEL: 10 mg/m³ 10 minute(s). Form: All forms

STEL: 1.64 ppm 10 minute(s). Form: All forms

TWA: 5 mg/m³ 8 hour(s). Form: All forms

TWA: 0.82 ppm 8 hour(s). Form: All forms

2,2'-Iminodiethanol

178/2001 (Czech Republic, 1/2001).

STEL: 10 mg/m³ 10 minute(s). Form: All forms

STEL: 2.32 ppm 10 minute(s). Form: All forms

TWA: 5 mg/m³ 8 hour(s). Form: All forms

TWA: 1.16 ppm 8 hour(s). Form: All forms

Ireland

Protector CH-3

triethanolamine	NAOSH (Ireland, 1/2002). OELV: 5 mg/m ³ 8 hour(s). Form: All forms
2,2'-Iminodiethanol	NAOSH (Ireland, 1/2002). OELV: 15 mg/m ³ 8 hour(s). Form: All forms OELV: 3 ppm 8 hour(s). Form: All forms
propylene glycol	NAOSH (Ireland, 1999). OELV: 10 mg/m ³ 8 hour(s). Form: Particulate OELV: 470 mg/m ³ 8 hour(s). Form: Sum of vapor and particulates OELV: 150 ppm 8 hour(s). Form: Sum of vapor and particulates
Spain	
triethanolamine	INSHT (Spain, 10/2004). VLA-ED: 5 mg/m ³ 8 hour(s). Form: All forms
2,2'-Iminodiethanol	INSHT (Spain, 10/2004). Skin VLA-ED: 2 mg/m ³ 8 hour(s). Form: All forms VLA-ED: 0.46 ppm 8 hour(s). Form: All forms
Estonia	
triethanolamine	Sotsiaalminister (Estonia, 9/2001). STEL: 10 mg/m ³ 15 minute(s). Form: All forms TWA: 5 mg/m ³ 8 hour(s). Form: All forms
2,2'-Iminodiethanol	Sotsiaalminister (Estonia, 9/2001). Skin STEL: 30 mg/m ³ 15 minute(s). Form: All forms STEL: 6 ppm 15 minute(s). Form: All forms TWA: 15 mg/m ³ 8 hour(s). Form: All forms TWA: 3 ppm 8 hour(s). Form: All forms
Turkey	
2,2'-Iminodiethanol	NIOSH REL (United States, 6/2001). TWA: 15 mg/m ³ 10 hour(s). Form: All forms TWA: 3 ppm 10 hour(s). Form: All forms
Lithuania	
triethanolamine	Del Lietuvos Higienos Normos (Lithuania, 12/2001). STEL: 10 mg/m ³ 15 minute(s). Form: All forms TWA: 5 mg/m ³ 8 hour(s). Form: All forms
boric acid	Del Lietuvos Higienos Normos (Lithuania, 12/2001). TWA: 10 mg/m ³ 8 hour(s). Form: All forms
decanedioic acid	Del Lietuvos Higienos Normos (Lithuania, 12/2001). TWA: 4 mg/m ³ 8 hour(s). Form: All forms
2,2'-Iminodiethanol	Del Lietuvos Higienos Normos (Lithuania, 12/2001). Skin STEL: 30 mg/m ³ 15 minute(s). Form: All forms STEL: 6 ppm 15 minute(s). Form: All forms TWA: 15 mg/m ³ 8 hour(s). Form: All forms TWA: 3 ppm 8 hour(s). Form: All forms
propylene glycol	Del Lietuvos Higienos Normos (Lithuania, 12/2001). TWA: 7 mg/m ³ 8 hour(s). Form: All forms
Slovenia	
triethanolamine	Uradni list Republike Slovenije (Slovenia, 1/2000). TWA: 5 mg/m ³ 8 hour(s). Form: Inhalable fraction
2,2'-Iminodiethanol	Uradni list Republike Slovenije (Slovenia, 1/2000). Skin PEAK: 60 mg/m ³ 4 times per shift, 15 minute(s). Form: Inhalable fraction TWA: 15 mg/m ³ 8 hour(s). Form: Inhalable fraction

Personal protective equipment

Respiratory protection

- : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hand protection

- : Chemical-resistant, impervious gloves or gauntlets complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
<1 hour(s) (breakthrough time): disposable vinyl

Protector CH-3

- Eye protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
Recommended: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
- Skin protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Body: Recommended: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Additional Information** : Not available.

9. Physical and chemical properties

General information

Appearance

- Physical state** : Liquid. (Viscous liquid.)
- Colour** : Colourless to light yellow.
- Odour** : Aromatic. Faint

Important health, safety and environmental information

- pH** : 8 (Conc. (% w/w): 100) [Basic.]
- Boiling point** : 100°C (212°F)
- Melting point** : May start to solidify at 22°C (71.6°F) based on data for: triethanolamine. Weighted average: 1.55°C (34.8°F)
- Relative density** : 1.086 (20°C / 68°F)
- Solubility** : Easily soluble in cold water, hot water.
- Viscosity** : Dynamic: 6000 to 8000 cP
- Vapor density** : >1 (Air = 1)
- Evaporation rate (butyl acetate = 1)** : The highest known value is 0.36 (water) Weighted average: 0.3 compared to (n-BUTYL ACETATE=1)

10. Stability and reactivity

- Stability** : The product is stable.

11. Toxicological information

Acute toxicity

<u>Ingredient name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
triethanolamine	LD50	2200 mg/kg	Oral	Rabbit
	LD50	2200 mg/kg	Oral	Guinea pig
	LD50	5846 mg/kg	Oral	Mouse
2,2'-Iminodiethanol	LD50	2200 mg/kg	Oral	Rabbit
	LD50	3300 mg/kg	Oral	Mouse

Local effects

- Skin irritation** : Slightly hazardous in case of skin contact (irritant).
- Sensitisation** : Slightly hazardous in case of skin contact (sensitiser).
- Toxicity data** : Not available.

Over-exposure signs/symptoms

- Target organs** : Contains material which causes damage to the following organs: upper respiratory tract, skin, eye, lens or cornea.

12. Ecological information

Ecotoxicity data

<u>Ingredient name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
triethanolamine	Scenedesmus subspicatus (EC50)	48 hour(s)	470 mg/l
2,2'-Iminodiethanol	Pimephales promelas (LC50)	96 hour(s)	11800 mg/l
	Pimephales promelas (LC50)	96 hour(s)	100 mg/l
	Daphnia magna (LC50)	96 hour(s)	100 mg/l

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Methods of disposal ; Waste of residues ; Contaminated packaging : The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Waste classification : Not applicable.

European waste catalogue (EWC) : 16 03 06

Hazardous waste : To present knowledge of the supplier, this product is not regarded as hazardous waste as defined by EU Directive 91/689/EC.

14. Transport information

International transport regulations

<u>Regulatory Information</u>	<u>UN number</u>	<u>Proper shipping name</u>	<u>Class</u>	<u>Packing group</u>	<u>Label</u>	<u>Additional Information</u>
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

15. Regulatory information

EU Regulations

Risk Phrases : This product is not classified according to the EU regulations.

Product use : Classification and labelling have been performed according to EU directives 67/548/EEC, 1999/45/EC, including amendments and the intended use.
- Consumer applications.

Additional warning phrases : Safety data sheet available for professional user on request.

EC Statistical classification (Tariff Code) : 32089091

National regulations

Denmark

Additional warning phrases : Safety data sheet available for professional user on request.

Denmark – Cancer risks : Not available.

MAL-code : 00-3

Denmark – Restrictions on use : Not to be used by professional users below 18 years of age, see the National Working Environment Authorities Executive Order on young peoples dangerous work.

Statutory order 517 on aerosols : Not applicable.

Netherlands

Protector CH-3

K-Klasse : K5
CPR : Not regulated.
SHHR : 0ZZ

Germany

Other Regulations : TRGS 900
Ordinance on combustible liquids : Class: Omitted
Technical instruction on air quality control : Class II: 2.04%
Hazard class for water : nwg

16. Other information

Full text of R phrases referred to in sections 2 and 3 - Europe : R22- Harmful if swallowed.
R48/22- Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R38- Irritating to skin.
R41- Risk of serious damage to eyes.

Full text of classifications referred to in sections 2 and 3 - Europe : Xn - Harmful
Xi - Irritant

History

Date of printing : 20/01/2005.
Date of issue : 20/01/2005.
Date of previous issue : No Previous Validation.
Version : 1
Prepared by : Simon Hosken
Environmental, Health and Safety Manager

References

The Health and Safety At Work Act 1974, section 6.
Control of Substances Hazardous to Health (CoSHH) Regulations 2002 and its amendments.

Preparation contains solely TSCA and EINECS listed substances.

This safety data sheet has been prepared in accordance with the requirements of the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 which implement EC Directives 1999/45/EC and 2001/58/EC and their amendments.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Version 1

Page: 7/7