

SAFETY DATA SHEET



Cookson Electronics ASSEMBLY MATERIALS

Superconcentrate Protector F1 Box

1. Identification of the preparation and of the company

Product name : Superconcentrate Protector
F1 Box

Code : 56700

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Contact person : shosken@cooksonelectronics.com

Material uses : Water treatment agent.

2 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 by the following route of exposure: of skin contact (irritant).

Toxicity data : Not available.

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

See section 11 for more detailed information on health effects and symptoms.

3 Composition/information on ingredients

Substance/preparation : Preparation

Ingredient name	CAS number	%	EC number	Classification
Europe				
triethanolamine	102-71-6	20 - 30	203-049-8	Not classified.
boric acid	10043-35-3	20 - 30	233-139-2	Not classified.
1h-benzotriazole	95-14-7	1 - 5	202-394-1	Xn; R22 Xi; R36 R52/53
sodium molybdate dihydrate	10102-40-6	1 - 5	*600-158-6	Not classified.
See section 16 for the full text of the R-phrases declared above				

Occupational exposure limits, if available, are listed in section 8.

The classifications listed, indicate the potential hazards of the ingredients

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4. First-aid measures

First-aid measures

- Inhalation** : If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Obtain medical attention if symptoms occur. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.
- Skin contact** : Flush contaminated skin with plenty of water. Obtain medical attention if symptoms occur.
- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.
- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

See section 11 for more detailed information on health effects and symptoms.

5. Fire-fighting measures

Extinguishing media

- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : In a fire or if heated, a pressure increase will occur and the container may burst. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Hazardous combustion products** : Decomposition products may include the following materials:
carbon oxides
nitrogen oxides
metal oxide/oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

- Personal precautions** : Avoid breathing vapour or mist. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Large spill** : Place spilt material in an appropriate container for disposal. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal. Use a water rinse for final clean-up.
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. Dilute with plenty of water.

7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist.
- Storage** : Store in accordance with local regulations. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
- Packaging materials**
- Recommended** : Use original container.
- Czech Republic - Storage code** : III

8. Exposure controls/personal protection

Exposure limit values

<u>Ingredient name</u>	<u>Occupational exposure limits</u>
Europe	
triethanolamine	ACGIH TLV (United States, 1/2007). TWA: 5 mg/m ³ 8 hour(s).
boric acid	ACGIH TLV (United States, 1/2007). STEL: 6 mg/m ³ 15 minute(s). TWA: 2 mg/m ³ 8 hour(s).
sodium molybdate dihydrate	ACGIH TLV (United States, 1/2007). Notes: as Mo TWA: 0.5 mg/m ³ , (as Mo) 8 hour(s). Form: Soluble
Sweden	
triethanolamine	AFS (Sweden, 6/2005). STEL: 10 mg/m ³ 15 minute(s). TWA: 5 mg/m ³ 8 hour(s).
sodium molybdate dihydrate	AFS 2005:17 (Sweden, 6/2007). Notes: as Mo TWA: 5 mg/m ³ , (as Mo) 8 hour(s). Form: total dust
Denmark	
triethanolamine	Arbejdstilsynet (Denmark, 4/2005). TWA: 3.1 mg/m ³ 8 hour(s). TWA: 0.5 ppm 8 hour(s).
sodium molybdate dihydrate	Arbejdstilsynet (Denmark, 4/2005). Notes: Calculated as Mo TWA: 5 mg/m ³ , (Calculated as Mo) 8 hour(s).
Norway	
triethanolamine	Arbejdstilsynet (Norway, 10/2003). TWA: 5 mg/m ³ 8 hour(s).
sodium molybdate dihydrate	Arbejdstilsynet (Norway, 6/2007). Notes: Calculated as Mo TWA: 5 mg/m ³ , (Calculated as Mo) 8 hour(s).
France	
sodium molybdate dihydrate	INRS (France, 6/2006). Notes: As Mo indicative exposure limits STEL: 10 mg/m ³ , (As Mo) 15 minute(s). TWA: 5 mg/m ³ , (As Mo) 8 hour(s).
Netherlands	
molybdenum trioxide	Nationale MAC-lijst (Netherlands, 7/2006). Notes: As Mo Administrative OEL, 8-h TWA: 5 mg/m ³ , (As Mo) 8 hour(s).
Germany	
Not available.	TRGS900 MAK (Germany, 2002). Spitzenbegrenzung: 20 mg/m ³ TWA: 5 mg/m ³ 8 hour(s).
Finland	

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8. Exposure controls/personal protection

sodium molybdate dihydrate

Työterveyslaitos, Sosiaali- ja terveysministeriö (Finland, 4/2005).**Notes: Calculated as Mo**TWA: 5 mg/m³, (Calculated as Mo) 8 hour(s).**United Kingdom (UK)**

propylene glycol

EH40-WEL (United Kingdom (UK), 9/2006).WEL 8 hrs limit: 10 mg/m³ 8 hour(s). Form: ParticulateWEL 8 hrs limit: 474 mg/m³ 8 hour(s). Form: Sum of vapour and particulates

WEL 8 hrs limit: 150 ppm 8 hour(s). Form: Sum of vapour and particulates

sodium molybdate dihydrate

EH40-WEL (United Kingdom (UK), 8/2007). Notes: As MoWEL 15 min limit: 10 mg/m³, (As Mo) 15 minute(s).WEL 8 hrs limit: 5 mg/m³, (As Mo) 8 hour(s).**Austria**

triethanolamine

GKV_MAK (Austria, 6/2006).STEL: 10 mg/m³, 4 times per shift, 15 minute(s). Form: Inhalable fraction

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

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

TWA: 0.8 ppm 8 hour(s). Form: Inhalable fraction

sodium molybdate dihydrate

GKV_MAK (Austria, 6/2006). Notes: Measured as MoSTEL: 10 mg/m³, (Measured as Mo), 4 times per shift, 15 minute(s). Form: Inhalable fractionTWA: 5 mg/m³, (Measured as Mo) 8 hour(s). Form: Inhalable fraction**Switzerland**

sodium molybdate dihydrate

SUVA (Switzerland, 1/2007). Notes: Calculated as MoTWA: 5 mg/m³, (Calculated as Mo) 8 hour(s). Form: inhalable dust**Belgium**

triethanolamine

Lijst Grenswaarden / Valeurs Limites (Belgium, 3/2006).TWA: 5 mg/m³ 8 hour(s).

sodium molybdate dihydrate

Lijst Grenswaarden / Valeurs Limites (Belgium, 6/2007). Notes: As MoTWA: 5 mg/m³, (As Mo) 8 hour(s).**Spain**

triethanolamine

INSHT (Spain, 1/2007).TWA: 5 mg/m³ 8 hour(s).

sodium molybdate dihydrate

INSHT (Spain, 1/2007). Notes: As MoTWA: 5 mg/m³, (As Mo) 8 hour(s).**Turkey**

No exposure limit value known.

Czech Republic

triethanolamine

178/2001 (Czech Republic, 6/2004).STEL: 10 mg/m³ 10 minute(s).

STEL: 1.64 ppm 10 minute(s).

TWA: 5 mg/m³ 8 hour(s).

TWA: 0.82 ppm 8 hour(s).

sodium molybdate dihydrate

178/2001 (Czech Republic, 6/2004). Notes: as MoSTEL: 25 mg/m³, (as Mo) 10 minute(s).TWA: 5 mg/m³, (as Mo) 8 hour(s).**Ireland**

8. Exposure controls/personal protection

triethanolamine	NAOSH (Ireland, 3/2002). OELV-8hr: 5 mg/m ³ 8 hour(s).
propylene glycol	NAOSH (Ireland, 3/2002). OELV-8hr: 10 mg/m ³ 8 hour(s). Form: Particulate OELV-8hr: 470 mg/m ³ 8 hour(s). Form: Sum of vapor and particulates OELV-8hr: 150 ppm 8 hour(s). Form: Sum of vapor and particulates
sodium molybdate dihydrate	NAOSH (Ireland, 3/2002). Notes: As Mo OELV-15min: 10 mg/m ³ , (As Mo) 15 minute(s). OELV-8hr: 5 mg/m ³ , (As Mo) 8 hour(s).
Italy	
No exposure limit value known.	
Estonia	
triethanolamine	Sotsiaalminister (Estonia, 9/2001). STEL: 10 MG/M3 15 minute(s). TWA: 5 MG/M3 8 hour(s).
sodium molybdate dihydrate	Sotsiaalminister (Estonia, 9/2001). TWA: 5 mg/m ³ 8 hour(s). TWA: 10 mg/m ³ 8 hour(s). Form: total dust TWA: 5 mg/m ³ 8 hour(s). Form: inhalable dust
Lithuania	
triethanolamine	Del Lietuvos Higienos Normos (Lithuania, 12/2001). STEL: 10 MG/M3 15 minute(s). TWA: 5 MG/M3 8 hour(s).
boric acid	Del Lietuvos Higienos Normos (Lithuania, 12/2001). TWA: 10 MG/M3 8 hour(s).
sebacic acid	Del Lietuvos Higienos Normos (Lithuania, 12/2001). TWA: 4 mg/m ³ 8 hour(s).
propylene glycol	Del Lietuvos Higienos Normos (Lithuania, 12/2001). TWA: 7 MG/M3 8 hour(s).
sodium molybdate dihydrate	Del Lietuvos Higienos Normos (Lithuania, 12/2001). TWA: 5 mg/m ³ 8 hour(s).
Slovakia	
sodium molybdate dihydrate	Nariadenie vlády Slovenskej republiky (Slovakia, 6/2007). Notes: as Mo TWA: 5 mg/m ³ , (as Mo) 8 hour(s).
Hungary	
sodium molybdate dihydrate	EüM-SzCsM (Hungary, 3/2006). Notes: as Mo PEAK: 20 mg/m ³ , (as Mo) 15 minute(s). TWA: 5 mg/m ³ , (as Mo) 8 hour(s).
Poland	
sodium molybdate dihydrate	Ministra Pracy i Polityki Społecznej (Poland, 9/2007). Notes: Calculated as Mo STEL: 10 mg/m ³ , (Calculated as Mo) 15 minute(s). TWA: 4 mg/m ³ , (Calculated as Mo) 8 hour(s).
Slovenia	
triethanolamine	Uradni list Republike Slovenije (Slovenia, 4/2005). TWA: 5 MG/M3 8 hour(s). Form: Inhalable fraction
sodium molybdate dihydrate	Uradni list Republike Slovenije (Slovenia, 6/2007). Notes: measured as Mo TWA: 5 mg/m ³ , (measured as Mo) 8 hour(s). Form: inhalable fraction
Latvia	

8. Exposure controls/personal protection

boric acid	LV Nat. Standardisation and Meterological Centre (Latvia, 11/2004). TWA: 10 MG/M3 8 hour(s).
sebacic acid	LV Nat. Standardisation and Meterological Centre (Latvia, 5/2007). TWA: 4 mg/m ³ 8 hour(s).
propylene glycol	LV Nat. Standardisation and Meterological Centre (Latvia, 11/2004). TWA: 7 MG/M3 8 hour(s).
1h-benzotriazole	LV Nat. Standardisation and Meterological Centre (Latvia, 11/2004). TWA: 5 MG/M3 8 hour(s).
Greece	
sodium molybdate dihydrate	PD 90/1999 (Greece, 2/2003). Notes: As Mo TWA: 5 mg/m ³ , (As Mo) 8 hour(s).
Portugal	
triethanolamine	Instituto Português da Qualidade (Portugal, 7/2004). TWA: 5 MG/M3 8 hour(s).
sodium molybdate dihydrate	Instituto Português da Qualidade (Portugal, 3/2007). Notes: Expressed as Mo TWA: 0.5 mg/m ³ , (Expressed as Mo) 8 hour(s). Form: respirable fraction

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Exposure controls

Occupational exposure controls : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Respiratory protection : Recommended: None assigned.

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

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, gases or dusts.
Recommended: safety glasses with side-shields EN 166 1F

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.
Recommended: overall

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

General information

Appearance

- Physical state** : Liquid.
Colour : Colourless to light yellow.
Odour : Characteristic.

Important health, safety and environmental information

- Relative density** : 1.2
Solubility : Easily soluble in the following materials: cold water and hot water.
VOC content : 0 %

10. Stability and reactivity

- Stability** : The product is stable. Under normal conditions of storage and use, hazardous polymerisation will not occur.
Conditions to avoid : No specific data.
Materials to avoid : No specific data.
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Potential acute health effects

- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Eye contact : No known significant effects or critical hazards.
Acute toxicity

Over-exposure signs/symptoms

12. Ecological information

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
triethanolamine	-	Acute EC50 609.98 to 658.3 mg/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia	48 hours
	-	Acute LC50 11800000 to 13000000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
boric acid	-	Acute EC50 777 to 932 ppm Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	-	Acute EC50 226 to 246 ppm Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	-	Acute EC50 133 to 153 ppm Fresh	Daphnia - Water flea - Daphnia	48 hours

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12. Ecological information

-	water Acute LC50 >1100 ppm Fresh water	magna Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
-	Acute LC50 >1021 ppm Fresh water	Fish - Bluegill - Lepomis macrochirus	96 hours
-	Acute LC50 >800 ppm Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
-	Acute LC50 5600 ppm Fresh water	Fish - Western mosquitofish - Gambusia affinis	96 hours
-	Acute LC50 50 to 100 ppm Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
-	Acute LC50 >100000 ug/L Fresh water	Fish - Bonytail - Gila elegans	96 hours
-	Acute LC50 >100000 ug/L Fresh water	Fish - Colorado squawfish - Ptychocheilus lucius	96 hours
-	Acute LC50 233000 to 293000 ug/L Fresh water	Fish - Razorback sucker - Xyrauchen texanus	96 hours
-	Acute LC50 125000 to 162000 ug/L Fresh water	Fish - Flannelmouth sucker - Catostomus latipinnis	96 hours
-	Acute LC50 >100000 ug/L Fresh water	Fish - Razorback sucker - Xyrauchen texanus	96 hours

Biodegradability

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

13. Disposal considerations

- Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
- European waste catalogue (EWC)** : 16 03 06 organic wastes other than those mentioned in 16 03 05
- Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

14. Transport information

International transport regulations

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA Class	Not regulated.	-	-	-		-

PG* : Packing group

15. Regulatory information

EU regulations

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

Risk phrases : This product is not classified according to EU legislation.

Product use : Consumer applications, Industrial applications.

Other EU regulations

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

Germany

Hazard class for water : 3 Appendix No. 4

Technical instruction on air quality control : TA-Luft Class III - Number 5.2.2: 0.9%

Italy

Emission control directive : 94.9% Not classified.

16. Other information

Full text of R-phrases referred to in sections 2 and 3 - Europe : R22- Harmful if swallowed.
R36- Irritating to eyes.
R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

History

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Date of previous issue : 22/01/2010.

Version : 4.01

Prepared by : Not available.

☑ Indicates information that has changed from previously issued version.

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 REACH 1907/2006 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

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16. Other information

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.