SAFETY DATA SHEET

Cookson Electronics ASSEMBLY MATERIALS

HVAC F1 205LT

1. Identification of the preparation and of the company

Product name : HVAC F1 205LT

Code : 59851

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Contact person : shosken@cooksonelectronics.com

Material uses : Water-boiler treatment.

2 Hazards identification

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

Classification : Not classified.

Effects and symptoms

:

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	15 - 20	203-049-8	Not classified.
benzotriazole	95-14-7	1 - 5	202-394-1	Xn; R22 Xi; R36 R52/53
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	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, indecate the potential hazards of the ingredients

4. First-aid measures

First-aid measures

Inhalation : Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention if symptoms occur. 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. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get 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. Remove contaminated clothing and shoes. Get 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 dioxide
carbon monoxide
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 : Do not touch or walk through spilt material. Provide adequate ventilation. 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 : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see section 8). Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Packaging materials

Recommended : Use original container.

8. Exposure controls/personal protection

Exposure limit values

Ingredient name	Occupational exposure limits
Europe	
triethanolamine	**ACGIH TLV (United States, 1/2007).** TWA: 5 mg/m³ 8 hour(s).
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**ACGIH TLV (United States, 1/2008). Notes: as Mo** TWA: 0.5 mg/m³, (as Mo) 8 hour(s). Form: Soluble
Sweden	
triethanolamine	**AFS (Sweden, 6/2005).** STEL: 10 mg/m³ 15 minute(s). TWA: 5 mg/m³ 8 hour(s).
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**AFS 2005:17 (Sweden, 6/2007). Notes: as Mo** TWA: 5 mg/m³, (as Mo) 8 hour(s). Form: total dust
Denmark	
triethanolamine	**Arbejdstilsynet (Denmark, 4/2005).** TWA: 3.1 mg/m³ 8 hour(s). TWA: 0.5 ppm 8 hour(s).
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**Arbejdstilsynet (Denmark, 3/2008). Notes: calculated as Mo** TWA: 5 mg/m³, (calculated as Mo) 8 hour(s).
Norway	
triethanolamine	**Arbeidstilsynet (Norway, 10/2003).** TWA: 5 mg/m³ 8 hour(s).
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**Arbeidstilsynet (Norway, 11/2007). Notes: calculated as Mo** TWA: 5 mg/m³, (calculated as Mo) 8 hour(s).
France	
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**INRS (France, 12/2007). Notes: indicative exposure limits** STEL: 10 mg/m³, (as Mo) 15 minute(s). TWA: 5 mg/m³, (as Mo) 8 hour(s).
Netherlands	
No exposure limit value known.	
Germany	
No exposure limit value known.	
Finland	
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**Työterveyslaitos, Sosiaali- ja terveysministeriö (Finland, 8/2007). Notes: calculated as Mo** TWA: 0.5 mg/m³, (calculated as Mo) 8 hour(s).
United Kingdom (UK)	
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**EH40/2005 WELs (United Kingdom (UK), 8/2007). Notes: as Mo** STEL: 10 mg/m³, (as Mo) 15 minute(s). TWA: 5 mg/m³, (as Mo) 8 hour(s).
Austria	

8. Exposure controls/personal protection

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
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**GKV_MAK (Austria, 9/2007). Notes: measured as Mo** STEL: 10 mg/m³, (measured as Mo), 4 times per shift, 15 minute(s). Form: inhalable fraction TWA: 5 mg/m³, (measured as Mo) 8 hour(s). Form: inhalable fraction
Switzerland	
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**SUVA (Switzerland, 1/2007). Notes: calculated as Mo** TWA: 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).
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**Lijst Grenswaarden / Valeurs Limites (Belgium, 6/2007). Notes: as Mo** TWA: 5 mg/m³, (as Mo) 8 hour(s).
Spain	
triethanolamine	**INSHT (Spain, 1/2007).** TWA: 5 mg/m³ 8 hour(s).
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**INSHT (Spain, 1/2008). Notes: as Mo** TWA: 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).
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**178/2001 (Czech Republic, 12/2007). Notes: as Mo** STEL: 25 mg/m³, (as Mo) 15 minute(s). TWA: 5 mg/m³, (as Mo) 8 hour(s).
Ireland	
triethanolamine	**NAOSH (Ireland, 3/2002).** OELV-8hr: 5 mg/m³ 8 hour(s).
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**NAOSH (Ireland, 8/2007). Notes: as Mo** OELV-15min: 10 mg/m³, (as Mo) 15 minute(s). OELV-8hr: 5 mg/m³, (as Mo) 8 hour(s).
Italy	
triethanolamine	**ACGIH TLV (United States, 1/2007).** TWA: 5 mg/m³ 8 hour(s).
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**ACGIH TLV (United States, 1/2008). Notes: as Mo** TWA: 0.5 mg/m³, (as Mo) 8 hour(s). Form: Soluble
Estonia	
triethanolamine	**Sotsiaalminister (Estonia, 9/2001).** STEL: 10 MG/M3 15 minute(s). TWA: 5 MG/M3 8 hour(s).
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**Sotsiaalminister (Estonia, 10/2007).** TWA: 5 mg/m³ 8 hour(s). TWA: 5 mg/m³ 8 hour(s). Form: inhalable dust TWA: 10 mg/m³ 8 hour(s). Form: total dust
Lithuania	

8. Exposure controls/personal protection

triethanolamine	**Del Lietuvos Higienos Normos (Lithuania, 12/2001).** STEL: 10 MG/M3 15 minute(s). TWA: 5 MG/M3 8 hour(s).
sebacic acid	**Del Lietuvos Higienos Normos (Lithuania, 10/2007).** TWA: 4 mg/m³ 8 hour(s).
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**Del Lietuvos Higienos Normos (Lithuania, 10/2007).** TWA: 5 mg/m³ 8 hour(s).
Slovakia	
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**Nariadenie Vlády Slovenskej republiky (Slovakia, 6/2007). Notes: as Mo** TWA: 5 mg/m³, (as Mo) 8 hour(s).
Hungary	
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**EüM-SzCsM (Hungary, 12/2007). Notes: as Mo** PEAK: 20 mg/m³, (as Mo) 15 minute(s). TWA: 5 mg/m³, (as Mo) 8 hour(s).
Poland	
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**Ministra Pracy i Polityki Społecznej (Poland, 9/2007). Notes: calculated as Mo** STEL: 10 mg/m³, (calculated as Mo) 15 minute(s). TWA: 4 mg/m³, (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
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**Uradni list Republike Slovenije (Slovenia, 6/2007). Notes: measured as Mo** TWA: 5 mg/m³, (measured as Mo) 8 hour(s). Form: inhalable fraction
Latvia	
sebacic acid	**LV Nat. Standardisation and Meterological Centre (Latvia, 5/2007).** TWA: 4 mg/m³ 8 hour(s).
benzotriazole	**LV Nat. Standardisation and Meterological Centre (Latvia, 5/2007).** TWA: 5 mg/m³ 8 hour(s).
Greece	
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**PD 90/1999 (Greece, 8/2007). Notes: as Mo** TWA: 5 mg/m³, (as Mo) 8 hour(s).
Portugal	
triethanolamine	**Instituto Português da Qualidade (Portugal, 7/2004).** TWA: 5 MG/M3 8 hour(s).
Molybdate (MoO4 2-), disodium, dihydrate, (T-4)-	**Instituto Português da Qualidade (Portugal, 3/2007). Notes: expressed as Mo** TWA: 0.5 mg/m³, (expressed as Mo) 8 hour(s). Form: respirable fraction

Recommended monitoring procedures : 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.

8. Exposure controls/personal protection

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. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection : 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 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. 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.

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 : Straw.

Important health, safety and environmental information

pH : 7.5

Relative density : 1.096

Vapour density : >1 [Air = 1]

VOC content : 0 % (w/w) [ISO % 11890-2]

10. Stability and reactivity

Stability : The product is stable.

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
	-	Acute LC50 >100000 ug/L Marine water	Crustaceans - Common shrimp, sand shrimp - Crangon crangon	48 hours

Biodegradability

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

AOX : The product does not contain organically bound halogens which could lead to an AOX value in waste water.

13. Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. 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.

Safety phrases : S37- Wear suitable gloves.

Product use : Consumer applications, Industrial applications.

15. Regulatory information

Other EU regulations

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

Germany

Hazard class for water : nwg Appendix No. 4

Italy

Emission control directive : 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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Prepared by : Simon Hosken
Environmental, Health and Safety Manager

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 soley 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

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.