

# SAFETY DATA SHEET



Cookson Electronics ASSEMBLY MATERIALS

## Silencer F2 Express

### 1. Identification of the preparation and of the company

**Product name** : Silencer F2 Express**Code** : 58231**Head Office** : **Cookson Electronics**  
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Tel: +44(0)1483 758400  
Fax: +44(0)1483 728837**Manufacturer** : Cookson Electronics  
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Tel: +44(0)1483 758400  
Fax: +44(0)1483 728837**Contact person** : shosken@cooksonelectronics.com**Material uses** : Water treatment agent.

### 2 Hazards identification

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification** : F+; R12**Additional hazards** : Contains gas under pressure; may explode if heated.**Effects and symptoms****Skin contact** : Slightly hazardous by the following route of exposure: of skin contact (irritant).**Eye contact** : Slightly hazardous by the following route of exposure: of eye contact (irritant).**Toxicity data** : Not available.**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
<b>Europe</b>				
propane	74-98-6	1 - 5	200-827-9	F+; R12
butane	106-97-8	1 - 5	203-448-7	F+; R12
<b>See section 16 for the full text of the R-phrases declared above</b>				

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

The classifications listed, indicate the potential hazards of the ingredients

### 4. First-aid measures

**First-aid measures****Inhalation** : Get medical attention if adverse health effects persist or are severe. 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.**Date of issue** : 20/01/2012.

1/9

## 4. First-aid measures

- 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. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.
- Skin contact** : Wash with soap and water. Get medical attention if symptoms occur.
- Eye contact** : Flush with plenty of water for at least 15 minutes, 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- 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 dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- Special exposure hazards** : Extremely flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
- 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- 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** : Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. 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** : 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** : Dilute with plenty of water.

## 7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Empty containers retain product residue and can be hazardous.
- Storage** : Store in accordance with local regulations. Store in original container, protected from direct sunlight. Use appropriate containment to avoid environmental contamination.
- Packaging materials**
- Recommended** : Use original container.

**Date of issue** : 20/01/2012.

2/9

## 7. Handling and storage

Czech Republic - Storage : III  
code

## 8. Exposure controls/personal protection

### Exposure limit values

<u>Ingredient name</u>	<u>Occupational exposure limits</u>
<b>Europe</b>	
propane	<b>ACGIH TLV (United States, 1/2008).</b> TWA: 1000 ppm 8 hour(s).
butane	<b>ACGIH TLV (United States, 1/2008).</b> TWA: 1000 ppm 8 hour(s).
<b>Sweden</b>	
No exposure limit value known.	
<b>Denmark</b>	
propane	<b>Arbejdstilsynet (Denmark, 3/2008).</b> TWA: 1000 ppm 8 hour(s). TWA: 1800 mg/m <sup>3</sup> 8 hour(s).
butane	<b>Arbejdstilsynet (Denmark, 3/2008).</b> TWA: 500 ppm 8 hour(s). TWA: 1200 mg/m <sup>3</sup> 8 hour(s).
<b>Norway</b>	
propane-1,2-diol	<b>Arbejdstilsynet (Norway, 11/2007).</b> TWA: 79 mg/m <sup>3</sup> 8 hour(s). TWA: 25 ppm 8 hour(s).
propane	<b>Arbejdstilsynet (Norway, 11/2007).</b> TWA: 500 ppm 8 hour(s). TWA: 900 mg/m <sup>3</sup> 8 hour(s).
butane	<b>Arbejdstilsynet (Norway, 11/2007).</b> TWA: 250 ppm 8 hour(s). TWA: 600 mg/m <sup>3</sup> 8 hour(s).
<b>France</b>	
butane	<b>INRS (France, 12/2007). Notes: indicative exposure limits</b> TWA: 800 ppm 8 hour(s). TWA: 1900 mg/m <sup>3</sup> 8 hour(s).
<b>Netherlands</b>	
No exposure limit value known.	
<b>Germany</b>	
propane	<b>TRGS900 AGW (Germany, 7/2008).</b> TWA: 1800 mg/m <sup>3</sup> 8 hour(s). PEAK: 7200 mg/m <sup>3</sup> 15 minute(s). TWA: 1000 ppm 8 hour(s). PEAK: 4000 ppm 15 minute(s).
butane	<b>TRGS900 AGW (Germany, 7/2008).</b> TWA: 2400 mg/m <sup>3</sup> 8 hour(s). PEAK: 9600 mg/m <sup>3</sup> 15 minute(s). TWA: 1000 ppm 8 hour(s). PEAK: 4000 ppm 15 minute(s).
<b>Finland</b>	
propane	<b>Työterveyslaitos, Sosiaali- ja terveysministeriö (Finland, 8/2007).</b> TWA: 800 ppm 8 hour(s). TWA: 1500 mg/m <sup>3</sup> 8 hour(s). STEL: 1100 ppm 15 minute(s). STEL: 2000 mg/m <sup>3</sup> 15 minute(s).
butane	<b>Työterveyslaitos, Sosiaali- ja terveysministeriö (Finland, 8/2007).</b> TWA: 800 ppm 8 hour(s).

Date of issue : 20/01/2012.

3/9

## 8. Exposure controls/personal protection

TWA: 1900 mg/m<sup>3</sup> 8 hour(s).  
 STEL: 1000 ppm 15 minute(s).  
 STEL: 2400 mg/m<sup>3</sup> 15 minute(s).

### United Kingdom (UK)

propane-1,2-diol

#### EH40/2005 WELs (United Kingdom (UK), 8/2007).

TWA: 10 mg/m<sup>3</sup> 8 hour(s). Form: Particulate  
 TWA: 474 mg/m<sup>3</sup> 8 hour(s). Form: Sum of vapour and particulates  
 TWA: 150 ppm 8 hour(s). Form: Sum of vapour and particulates

butane

#### EH40/2005 WELs (United Kingdom (UK), 8/2007).

STEL: 1810 mg/m<sup>3</sup> 15 minute(s).  
 STEL: 750 ppm 15 minute(s).  
 TWA: 1450 mg/m<sup>3</sup> 8 hour(s).  
 TWA: 600 ppm 8 hour(s).

### Austria

propane

#### GKV\_MAK (Austria, 9/2007).

TWA: 1000 ppm 8 hour(s).  
 TWA: 1800 mg/m<sup>3</sup> 8 hour(s).  
 PEAK: 2000 ppm, 3 times per shift, 60 minute(s).  
 PEAK: 3600 mg/m<sup>3</sup>, 3 times per shift, 60 minute(s).

butane

#### GKV\_MAK (Austria, 9/2007).

TWA: 800 ppm 8 hour(s).  
 PEAK: 3800 mg/m<sup>3</sup>, 3 times per shift, 60 minute(s).  
 PEAK: 1600 ppm, 3 times per shift, 60 minute(s).  
 TWA: 1900 mg/m<sup>3</sup> 8 hour(s).

### Switzerland

propane

#### SUVA (Switzerland, 1/2007).

TWA: 1000 ppm 8 hour(s).  
 TWA: 1800 mg/m<sup>3</sup> 8 hour(s).  
 STEL: 4000 ppm 15 minute(s).  
 STEL: 7200 mg/m<sup>3</sup> 15 minute(s).

butane

#### SUVA (Switzerland, 1/2007).

TWA: 800 ppm 8 hour(s).  
 TWA: 1900 mg/m<sup>3</sup> 8 hour(s).

### Belgium

propane

#### Lijst Grenswaarden / Valeurs Limites (Belgium, 6/2007).

TWA: 1000 ppm 8 hour(s). Form: gas

butane

#### Lijst Grenswaarden / Valeurs Limites (Belgium, 6/2007).

TWA: 1000 ppm 8 hour(s). Form: gas

### Spain

propane

#### INSHT (Spain, 1/2008).

TWA: 1000 ppm 8 hour(s).

butane

#### INSHT (Spain, 1/2008).

TWA: 1000 ppm 8 hour(s). Form: gas

### Turkey

propane

#### NIOSH REL (United States, 6/2008).

TWA: 1000 ppm 10 hour(s).  
 TWA: 1800 mg/m<sup>3</sup> 10 hour(s).

butane

#### NIOSH REL (United States, 6/2008).

TWA: 800 ppm 10 hour(s).  
 TWA: 1900 mg/m<sup>3</sup> 10 hour(s).

### Czech Republic

No exposure limit value known.

### Ireland

## 8. Exposure controls/personal protection

propane-1,2-diol	<b>NAOSH (Ireland, 8/2007).</b> OELV-8hr: 10 mg/m <sup>3</sup> 8 hour(s). Form: particulate OELV-8hr: 470 mg/m <sup>3</sup> 8 hour(s). Form: vapour and particulates OELV-8hr: 150 ppm 8 hour(s). Form: vapour and particulates
butane	<b>NAOSH (Ireland, 8/2007).</b> OELV-8hr: 600 ppm 8 hour(s). OELV-8hr: 1430 mg/m <sup>3</sup> 8 hour(s). OELV-15min: 750 ppm 15 minute(s). OELV-15min: 1780 mg/m <sup>3</sup> 15 minute(s).
<b>Italy</b>	
propane	<b>ACGIH TLV (United States, 1/2008).</b> TWA: 1000 ppm 8 hour(s).
butane	<b>ACGIH TLV (United States, 1/2008).</b> TWA: 1000 ppm 8 hour(s).
<b>Estonia</b>	
propane	<b>Sotsiaalminister (Estonia, 10/2007).</b> TWA: 1800 mg/m <sup>3</sup> 8 hour(s). TWA: 1000 ppm 8 hour(s).
butane	<b>Sotsiaalminister (Estonia, 10/2007).</b> TWA: 1500 mg/m <sup>3</sup> 8 hour(s). TWA: 800 ppm 8 hour(s).
<b>Lithuania</b>	
propane-1,2-diol	<b>Del Lietuvos Higienos Normos (Lithuania, 10/2007).</b> TWA: 7 mg/m <sup>3</sup> 8 hour(s).
<b>Slovakia</b>	
No exposure limit value known.	
<b>Hungary</b>	
butane	<b>EüM-SzCsM (Hungary, 12/2007).</b> TWA: 2350 mg/m <sup>3</sup> 8 hour(s). PEAK: 9400 mg/m <sup>3</sup> 15 minute(s).
<b>Poland</b>	
propane	<b>Ministra Pracy i Polityki Społecznej (Poland, 9/2007).</b> TWA: 1800 mg/m <sup>3</sup> 8 hour(s).
butane	<b>Ministra Pracy i Polityki Społecznej (Poland, 9/2007).</b> TWA: 1900 mg/m <sup>3</sup> 8 hour(s). STEL: 3000 mg/m <sup>3</sup> 15 minute(s).
<b>Slovenia</b>	
propane	<b>Uradni list Republike Slovenije (Slovenia, 6/2007).</b> TWA: 1800 mg/m <sup>3</sup> 8 hour(s). TWA: 1000 ppm 8 hour(s).
butane	<b>Uradni list Republike Slovenije (Slovenia, 6/2007).</b> TWA: 2400 mg/m <sup>3</sup> 8 hour(s). TWA: 1000 ppm 8 hour(s).
<b>Latvia</b>	
propane-1,2-diol	<b>LV Nat. Standardisation and Meterological Centre (Latvia, 5/2007).</b> TWA: 7 mg/m <sup>3</sup> 8 hour(s).
propane	<b>LV Nat. Standardisation and Meterological Centre (Latvia, 5/2007).</b> TWA: 100 mg/m <sup>3</sup> , (as C) 8 hour(s). STEL: 300 mg/m <sup>3</sup> , (as C) 15 minute(s).
butane	<b>LV Nat. Standardisation and Meterological Centre (Latvia, 5/2007).</b> TWA: 300 mg/m <sup>3</sup> 8 hour(s).
<b>Greece</b>	

## 8. Exposure controls/personal protection

propane	<b>PD 90/1999 (Greece, 8/2007).</b> TWA: 1000 ppm 8 hour(s). TWA: 1800 mg/m <sup>3</sup> 8 hour(s).
butane	<b>PD 90/1999 (Greece, 8/2007).</b> TWA: 1000 ppm 8 hour(s). TWA: 2350 mg/m <sup>3</sup> 8 hour(s).
<b>Portugal</b>	
propane	<b>Instituto Português da Qualidade (Portugal, 3/2007).</b> TWA: 1000 ppm 8 hour(s).
butane	<b>Instituto Português da Qualidade (Portugal, 3/2007).</b> TWA: 1000 ppm 8 hour(s). Form: gas TWA: 1000 ppm 8 hour(s).

**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** : Use only with adequate ventilation.

**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** : 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.  
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 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: None assigned.

**Environmental exposure controls** : None identified.

## 9. Physical and chemical properties

### General information

#### Appearance

**Physical state** : Liquid.

**Colour** : Straw.

**Odour** : Characteristic.

### Important health, safety and environmental information

**Solubility** : Easily soluble in the following materials: cold water and hot water.

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

## 10. Stability and reactivity

- Stability** : The product is stable.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- Materials to avoid** : Highly reactive or incompatible with the following materials:  
oxidizing materials
- 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** : May cause skin irritation.
- Eye contact** : May cause eye irritation.

### Acute toxicity

### Over-exposure signs/symptoms

- Target organs** : Contains material which may cause damage to the following organs: the nervous system, central nervous system (CNS).

Product name	List name	Name on list	Classification	Notes
<b>United Kingdom (UK)</b> butane	UK Occupational Exposure Limits EH40 - WEL	butane	Carc.	
<b>Poland</b> butane	Poland Carcinogen, Mutagen chemicals	butan (zawierający >= 0,1 % butadienu (numer WE 203-450-8))	Carc.. cat.1, Muta. Muta. cat.2	

## 12. Ecological information

### Aquatic ecotoxicity

### 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.
- 16 03 04 inorganic wastes other than those mentioned in 16 03 03

**Date of issue** : 20/01/2012.

7/9






## 13. Disposal considerations

**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
<b>ADR/RID Class</b>	1950	Aerosols, flammable	2	-		<b>CEPIC Tremcard</b> 21GC2
<b>IMDG Class</b>	1950	Aerosols, flammable	2.1	-		<b>Emergency schedules (EmS)</b> F-D, S-U
<b>IATA Class</b>	1950	Aerosols, flammable	2.1	-		<b>Passenger and Cargo Aircraft</b> Quantity limitation: 30 kg <b>Cargo Aircraft Only</b> Quantity limitation: 150 kg

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.

**Hazard symbol or symbols** : 

Extremely flammable

**Risk phrases** : R12- Extremely flammable.

**Safety phrases** : S2- Keep out of the reach of children.  
S16- Keep away from sources of ignition - No smoking.  
Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use.  
Do not spray on a naked flame or any incandescent material.  
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**Product use** : Consumer applications, Industrial applications.

### Other EU regulations

**Tactile warning of danger** : Yes, applicable.

### Germany

**Hazardous incident ordinance** : Applicable. Category: 8 Extremely flammable.

**Hazard class for water** : 1 Appendix No. 4

### Italy

**Emission control directive** : Not classified.

**Date of issue** : 20/01/2012.

8/9



## 16. Other information

Full text of R-phrases referred to in sections 2 and 3 - Europe : R12- Extremely flammable.

Full text of classifications referred to in sections 2 and 3 - Europe : F+ - Extremely flammable

### History

Date of printing : 29/08/2012.  
Date of issue : 20/01/2012.  
Date of previous issue : 20/10/2011.  
Version : 8  
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

*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.*