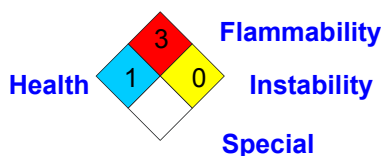


Material Safety Data Sheet

Emergency phone: Alpha Chemtrec #5591
 US & Canada: 800 424-9300
 Mexico: 01 800 022 1400, (55) 5559 1588



Health	1
Flammability	3
Physical hazards	0
Personal protection	

1. Product and company identification

Product name : SLS 65C FLUX
Product code : 117198
Manufacturer : Cookson Electronics
 109 Corporate Blvd.
 South Plainfield, NJ 07080
 Toll Free: (800) 367-5460
 Main Phone: (908) 791-3000
 Fax: (908) 791-3090
 www.alphametals.com

Cookson Electronics Mexico, S.A. de C.V.
 Avenida Nafta No. 800,
 Parque Industrial Stiva Aeropuerto
 Apodaca, Nuevo León, C.P. 66600
 Mexico
 www.cooksonelectronics.com
 Customer Service: (814) 946-1611

Validation date : 2/16/2011. **Supersedes Date** : 4/22/2010.
Prepared by : R. Hescock
 (203)-799-4940

2. Hazards identification

Physical state : Liquid.
Odor : Alcohol-like.
OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview : WARNING!
 Flammable liquid. This product contains material(s) that are absorbed through the skin. Harmful in contact with skin and if swallowed. Severely irritating to eyes. Irritating to respiratory system and skin. Defatting to the skin. Aspiration hazard if swallowed. Can enter lungs and cause damage. Keep away from heat, sparks and flame. Do not breathe vapor or mist. Do not ingest. Do not get in eyes. Avoid contact with skin and clothing. Contains material that can cause target organ damage. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry : Eye contact. Inhalation. Ingestion.
Potential acute health effects
Inhalation : Can cause central nervous system (CNS) depression. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Irritating to respiratory system. May cause drowsiness.

2. Hazards identification

Ingestion : Harmful if swallowed. Can cause central nervous system (CNS) depression. Aspiration hazard if swallowed. Can enter lungs and cause damage. Can cause dizziness, light-headedness, headache, nausea and blurred vision. Exposure to high levels may cause unconsciousness. May cause drowsiness. Can cause target organ damage. Ingestion may cause gastrointestinal irritation and diarrhea.

Skin : Irritating to skin. Harmful in contact with skin. This product contains material(s) that are absorbed through the skin. May cause damage to organs in contact with skin. and symptoms similar to those listed under inhalation or ingestion. Skin inflammation is characterized by itching, scaling, reddening or, occasionally, blistering. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Eyes : Severely irritating to eyes. Risk of serious damage to eyes. Adverse symptoms may include the following: redness, itching, swelling, pain

Potential chronic health effects

Chronic effects : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Adverse symptoms may include the following:

Organic acid: Prolonged skin contact may cause dermatitis. May cause disorders of the autonomic nervous system.

Target organs : Contains material which causes damage to the following organs: eye, lens or cornea. Contains material which may cause damage to the following organs: kidneys, the nervous system, liver, mucous membranes, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS), nose/sinuses.

Carcinogenicity : Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.

Mutagenicity : No conclusive data is available to indicate product or any component present at greater than 0.1% may cause heritable genetic effects.

Developmental effects : No conclusive data is available to indicate product or any component present at greater than 0.1% may cause developmental abnormalities.

Fertility effects : No conclusive data is available to indicate product or any component present at greater than 0.1% may impair fertility.

Medical conditions aggravated by over-exposure : Pre-existing skin and digestive disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

3. Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>% by weight</u>
Propan-2-ol	67-63-0	80-100
ester	-	1-5
Organic acid	-	1-5

Trade Secret exemption is pending with the HMIRC for one or more ingredients in this product. Registry Number: 8001 October 15, 2010

Any ingredient not listed in Section 3 is non-regulated or present in the product in concentrations below legal disclosure limits.

4. First aid measures

Eye contact : Check for and remove any contact lenses. Get medical attention. Immediately flush eyes with running water for at least 30 minutes, keeping eyelids open. Provide a readily-accessible eyewash facility and quick-drench safety shower. Flush contaminated skin with plenty of water.

4 . First aid measures

- Skin contact** : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Continue to rinse for at least 15 minutes. Get medical attention. Wash contaminated clothing before reuse. Clean shoes thoroughly before reuse. In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Inhalation** : Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. 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.
- Ingestion** : Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. 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. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- 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. Wear suitable protective clothing, gloves and eye/face protection. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

5 . Fire-fighting measures

- Flammability of the product** : 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. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
- Extinguishing media**
- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- Special exposure hazards** : 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** : carbon 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** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled 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** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. 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). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

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. Avoid contact with eyes, skin and clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Keep in the original container or approved alternative container. Containers should be kept closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.
Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

8 . Exposure controls/personal protection

Product name

Propan-2-ol

Exposure limits

ACGIH TLV (United States, 2/2010). Notes: Refers to Appendix A -- Carcinogens. ACGIH 2003 Adoption

STEL: 400 ppm 15 minute(s).

TWA: 200 ppm 8 hour(s).

NIOSH REL (United States, 6/2009).

STEL: 1225 mg/m³ 15 minute(s).

STEL: 500 ppm 15 minute(s).

TWA: 980 mg/m³ 10 hour(s).

TWA: 400 ppm 10 hour(s).

OSHA PEL (United States, 6/2010).

TWA: 980 mg/m³ 8 hour(s).

TWA: 400 ppm 8 hour(s).

OSHA PEL 1989 (United States, 3/1989).

STEL: 1225 mg/m³ 15 minute(s).

STEL: 500 ppm 15 minute(s).

TWA: 980 mg/m³ 8 hour(s).

TWA: 400 ppm 8 hour(s).

ester

Manufacturer (United States).

TWA: 10 mg/m³

Organic acid

ACGIH TLV (United States, 2/2010).

TWA: 5 mg/m³ 8 hour(s).

Consult local authorities for acceptable exposure limits.

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.

Engineering measures

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment. Processes should be designed to minimize airborne and skin exposure to hazardous substances.

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. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Remove/Take off immediately all contaminated clothing. Contaminated work clothing should not be allowed out of the workplace.

Personal protection

Respiratory

- : Use a properly fitted, air-purifying or air-fed respirator complying with NIOSH 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. Risk assessments should be completed by a Certified Industrial Hygienist.

Hands

- : 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. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment. Risk assessments should be completed by a Certified Industrial Hygienist.

Eyes

- : Avoid contact with eyes. Safety eyewear should be used when there is a likelihood of exposure. Use safety eyewear designed to protect against splash of liquids.

Continued on next page

8 . Exposure controls/personal protection

- Skin** : Avoid contact with skin and clothing. Wear protective clothing. Body garments used should be based upon the task being performed (e.g., lab coat, chemical resistant protective suit, sleevelets, synthetic apron, gauntlets) to avoid exposed skin surfaces. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- 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

- Physical state** : Liquid.
- Flash point** : Closed cup: 12°C (53.6°F)
- Auto-ignition temperature** : 399°C (750.2°F)
- Flammable limits** : Not available.
- Color** : Colorless.
- Odor** : Alcohol-like.
- pH** : Not available.
- Boiling/condensation point** : Not available.
- Melting/freezing point** : Not available.
- Relative density** : 0.7975
- Vapor pressure** : Not available.
- Vapor density** : >1 [Air = 1]
- Odor threshold** : Not available.
- Evaporation rate** : Not available.
- VOC** : 771.1 g/l
- Solubility** : Easily soluble in the following materials: cold water.

10 . Stability and reactivity

- Stability** : The product is stable.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
- Incompatibility with various substances** : Reactive with oxidizing agents, reducing agents, metals, acids, alkalis.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Other Hazardous decomposition products** : carbon oxides (CO, CO₂)
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure

Continued on next page

11 . Toxicological information

Propan-2-ol	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
Organic acid	LC50 Inhalation Dusts and mists	Rat	>7700 mg/m3	4 hours
	LD50 Dermal	Rabbit	>7940 mg/kg	-
	LD50 Oral	Rabbit	>11000 mg/kg	-
	LD50 Oral	Rat	5050 mg/kg	-
	LD50 Oral	Rat	>11000 mg/kg	-
ester	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	6400 mg/kg	-

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Propan-2-ol	A4	3	-	-	-	-

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Propan-2-ol	Equivocal - Oral	Mammal - species unspecified	-	-
	Equivocal - Inhalation	Mammal - species unspecified	-	-

Alpha has not conducted specific studies on the toxicity of this product.

12 . Ecological information


13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG* Label	Additional information
DOT Classification	UN1219	Isopropanol solution	3	II 	ERG# 129

PG* : Packing group

Continued on next page

15 . Regulatory information

United States

- HCS Classification** : Flammable liquid
Irritating material
Target organ effects
- U.S. Federal regulations** : **TSCA 5(a)2 proposed significant new use rules**: No products were found.
TSCA 5(a)2 final significant new use rules: No products were found.
TSCA 12(b) one-time export: No products were found.
- United States inventory (TSCA 8b)** : All components are listed or exempted.

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Propan-2-ol	67-63-0	80-100
Supplier notification	Propan-2-ol	67-63-0	80-100

Canada

- WHMIS (Canada)** : Class B-2: Flammable liquid
Class D-2B: Material causing other toxic effects (Toxic).
- Canada inventory** : All components are listed or exempted.

International lists

- China inventory (IECSC)** : All components are listed or exempted.
- Europe inventory** : All components are listed or exempted.
- Australia inventory (AICS)** : All components are listed or exempted.
- Korea inventory (KECI)** : All components are listed or exempted.
- Philippines inventory (PICCS)** : All components are listed or exempted.

16 . Other information

Definition of Terms

ACGIH	American Conference of Governmental Industrial Hygienists
Ceiling	Maximum exposure limit defined by OSHA
CAS	Chemical Abstract Service
IARC	International Agency for Research on Cancer
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
REL	Recommended Exposure Limit
RTK	Right to Know
SARA	Superfund Amendments and Reauthorization Act
STEL	Short Term Exposure Limit
TLV	ACGIH Threshold Limit Value
TLV-C	ACGIH Threshold Limit Value, Ceiling
TRADE SECRET	Claimed as allowed under 29CFR§1910.1200
TSCA	Toxic Substances Control Act
PPE	Personal Protection Equipment
CEPA	Canadian Environmental Protection Act
DSL	Domestic Substance List
NDSL	Non-Domestic Substance List
NSN	New Substance Notification Rules

Continued on next page

16 . Other information

Disclaimer

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Additionally, Cookson Electronics assumes no responsibility for injury to the vendee or third persons proximately caused by the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.

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Cookson Electronics