

# KOKI COMPANY LIMITED

## MATERIAL SAFETY DATA SHEET

### 1. Chemical Product and Company Identification

**Product Name:** JS-3101F  
**General Use:** Flux for wave soldering  
**Product Description:** Mixture of organic acid, rosin of small amount, and isopropyl alcohol  
**Manufacturer:** KOKI COMPANY LIMITED  
32-1, Senju Asahi-cho, Adachi-ku Tokyo 120-0026 Japan  
Telephone No.+81-3-5244-1521  
**Emergency contact:** KOKI COMPANY LIMITED - Soldering Materials Technology Div.  
Telephone No.+81-493-56-3495 (9:00am~5:30pm)

### 2. Composition/Data on components:

#### Chemical characterization:

<u>Chemical name</u>	<u>Wt%</u>	<u>CAS Registry No.</u>	<u>EINECS No.</u>	<u>EU No.</u>
2-Propanol	90~95	67-63-0	200-746-9	603-003-00-0
Succinic acid	1~3	110-16-7	203-742-5	
1-Phenoxy-2-propanol	3~5	770-35-4	212-222-7	

### 3. Hazards identification

**Hazard description:** F Highly flammable

**Specific hazards:** Irritant effect on eyes. Prolonged skin contact may defat the skin and produce dermatitis. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. (by 2-Propanol)

Causes respiratory tract irritation. May cause digestive tract irritation. Cause eye and skin irritation. (by Succinic acid)

### 4. First aid measures

#### After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm.  
Consult a physician after significant exposure.

#### After skin contact:

Immediately wash with water and soap and rinse thoroughly.  
Consult a physician after significant exposure.

#### After eye contact:

Flush opened eyes with plenty of water for at least 15min. Then consult a doctor.

#### Ingestion:

Immediately drink a plenty of water. Call a physician immediately. Do not induce vomiting.

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### 5. Fire fighting measures

**Extinguishing media:** Carbon dioxide, extinguishing powder or water spray. Fight larger fires with spray or alcohol resistant foam.

**Special fire fighting procedure:** Use NIOSH approved SCBA & Full protective equipment (FP N).

**Special hazards caused by the material, its products of combustion or resulting gases:**

**In case of fire, the following can be released:** Carbon monoxide (CO)

**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

### 6. Accidental release measures

**Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation.

Keep away from ignition sources.

**Measures for environmental protection:**

Do not allow material to be released to the environment without proper governmental permits.

**Measures for cleaning/collecting:**

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Keep away from ignition sources.

**Additional information:**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### 7. Handling and storage

**Handling**

**Information for safe handling:**

Ensure good ventilation at the workplace.

Avoid contact with the skin and the eyes. Do not breathe vapors/dust. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

Open and handle container with care.

**Information about protection against explosions and fires:**

Keep ignition sources away. Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

**Storage**

**Requirements to be met by storerooms and receptacles:**

Store in a cool location.

**Information about storage in one common storage facility:**

Do not store together with oxidizing and strong acids.

**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Store under lock and key and with access restricted to technical experts or their assistants only.

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### 8. Exposure controls and personal protection

#### Components with limit values that require monitoring at the workplace:

Isopropyl alcohol (2-Propanol)

	ppm
ACGIH TLV	400; 500-STEL
Belgium TWA	400; 500-STEL
Denmark TWA	200 (skin)
France TWA	400
Germany TWA	200
Ireland TWA	400; 500-STEL (skin)
Netherlands TWA	250
Russia TWA	400-STEL
Sweden TWA	150; 250-STEL
Switzerland TWA	400; 800-STEL
United Kingdom TWA	400; 500-STEL
USA PEL	400

Succinic acid

Not required.

#### Personal protective equipment

##### General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

##### Breathing equipment:

Use suitable respirator when high concentrations are present.

**Ventilation:** Local exhaust operator should be protected from soldering fumes.

**Protective gloves:** Impervious gloves.

**Eye protection:** Safety glasses. Full face protection.

**Body protection:** Protective work clothing.

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### 9. Physical and chemical properties

**Form:** Liquid

**Color:** Amber - clear

**Odor:** Organic acid like and alcohol

	<u>Value/Range</u>	<u>Unit</u>	<u>Method</u>
<b>Melting point/Melting range:</b>	< 89.5	°C	
<b>Boiling point/Boiling range:</b>	> 82.4	°C	
<b>Sublimation temperature / start:</b>	Not determined		
<b>Flash point:</b>	12	°C	
<b>Flammability (solids, gaseous)</b>	Highly flammable		
<b>Ignition temperature:</b>	750	°C	
<b>Decomposition temperature:</b>	Not determined		
<b>Danger of explosion:</b>	Product does not present an explosion hazard. However, formations of explosive air/vapor mixtures are possible		
<b>Explosion limits:</b>			
<b>Lower:</b>	2.5	Vol %	
<b>Upper:</b>	12	Vol %	
<b>Vapor pressure:</b>	43.9	hPa	at 20°C
<b>Specific gravity:</b>	0.806	g/cm <sup>3</sup>	at 20°C
<b>Solubility in / Miscibility with water:</b>	partial		
<b>% Volatile by volume:</b>	>95		

### 10. Stability and reactivity

**Stability:** Stable

**Conditions to be avoided:** Stable under recommended storage conditions. Vapors may form explosive mixture with air.

**Materials to be avoided:** Oxidizing agents

**Dangerous reactions:** Reaction with strong oxidizing agents. Forms peroxide.

**Dangerous products of decomposition:** Carbon monoxide and carbon dioxide.

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### 11. Toxicological information

**Acute toxicity:**

**LD50-LC50 values that are relevant for classification:**

2-Propanol (CAS#67-63-0), 100%

Oral: LD50: 4797 mg/kg (dog)

LD50: 3600 mg/kg (mouse)

LD50: 5045 mg/kg (rat)

LD50: 6410 mg/kg (rabbit)

LDLo: 3570 mg/kg (human)

Dermal : LD50: 12800 mg/kg (rabbit)

Inhalative: LC50/8H: 16000 ppm/8H (rat)

Succinic acid (CAS#110-15-6), 99%

Oral: LD50: 2260 mg/kg (rat)

Skin: LD50: >1000 mg/kg (guinea pig)

1-Phenoxy-2-Propanol (CAS#770-35-4), 97%

No data available.

**Primary irritant effect:**

On the skin : Irritant to skin and mouse membranes.

On the eye : Irritant effect

**Sensitization:** No sensitization

**Sub acute to chronic toxicity:**

2-Propanol may act as a local irritant and in high concentrations as a narcotic with symptoms such as headache, dizziness, vomiting metal depression, anesthesia, and coma.

Similar symptoms may be caused by ingestion. It can cause corneal burns on contact with eyes.

**Additional toxicological information:**

In addition to local irritant manifestations, there is a narcotic effect when inhaling high concentrations, with the danger of central respiratory arrest.

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

IARC-3: Not classifiable as to carcinogen city to humans.

### 12. Ecological information

**Mobility:** Partly soluble in water.

**Persistence and degradability:** Readily biodegradable, according to appropriate OECD test.

**Bioaccumulation:** None

**General notes:** Do not allow material to be released to the environment without proper governmental permits.

### 13. Disposal considerations

**Waste from residues /Product:**

Consult state, local or national regulations for proper disposal.

**Uncleaned packagings:**

Disposal must be made according to official regulations.

**Recommendation:** Solvent (alcohol), if necessary with cleaning agents.

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### 14. Transport information

**DOT regulations:**

**Hazard class:** 3  
**Identification number:** UN1866  
**Packing group:** II  
**Proper shipping name (technical name):** Flammable Liquid

**Land transport ADR/RID (cross-border)**

**ADR/RID class:** 3 Flammable Liquid  
**Item:** 3b  
**Danger code (Kemler):** 33  
**UN-Number:** 1866  
**Description of goods:** II

**Maritime transport IMDG:**

**IMDG Class:** 3  
**UN number:** 1866  
**Packaging group:** II  
**Proper shipping name:** Flammable Liquid

**Air transport ICAO-TI and IATA-DGR:**

**ICAO-TI-II class:** 3  
**UN/ID Number:** 1866  
**Packaging group:** II  
**Proper shipping name:** Flammable Liquid

### 15. Regulations

**Product related hazard information:**

**Hazard symbols:** F Highly flammable

**Risk phrases:**

11 Highly flammable.  
36/37/38 Irritating to eyes, respiratory system and skin..

**Safety phrases:**

7 Keep container tightly closed.  
16 Keep away from sources of ignition – No smoking.  
24/25 Avoid contact with skin and eyes.  
26 In case of contact with eyes, rinse immediately with a plenty of water and seek medical advice.  
28 After contact with skin, wash with a plenty of water and soap.  
37/39 Wear suitable gloves and eye/face protection

**National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory.

**Information about limitation of use**

For use only by technically qualified individuals.

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### 16. Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing MSDS:** Soldering Materials Technology Div.

**Contact:** Koichi Sekiguchi