MATERIAL SAFETY DATA SHEET 2057 (No-Clean Flux)

Halogen-Free

1. PRODUCT AND MANUFACTURER INFORMATION

Product Name	2057 (No-Clean Flux)
Application	To speed up the manufacturing process by eliminating the need for clearing circuit boards after reflow.
Manufacturer / Supplier	KOOTAI NEW MATERIALS TECHNOLOGY PVT. LTD.
Address	Industrial Plot No. 404, Udyog Kendra Ext.-II, Ecotech-III, Gautam Buddha Nagar, Greater Noida, Uttar Pradesh - 201306
Telephone Number	0120-4561693
Web	www.kootai.in

2. CHEMICAL COMPOSITIONS

Chemical Composition	Proportion	CAS NO.
Isopropyl Alcohol	75-90%	67-63-0
Mineral Spirits	5%-10%	-
Gum Rosin	1%-5%	-

3. HAZARD IDENTIFICATION

Flammable liquid grade-3

3.1 Hazard classification

3.2 Hazard warning:

- Highly flammable liquids and vapors
- May be harmful if swallowed
- Cause minor skin irritation
- Swallowing may cause fatal

3.3 Hazard prevention measures

- Well-ventilated
- Keep away from ignition - No smoking
- Avoid contact with eyes
- Do not pour into the drain
- Prevent electrostatic

4. FIRST AID MEASURES

4.1	**Eyes:**	Rinse with water for at least 15 minutes. Seek medical treatment.
4.2	**Skin:**	Wash with soapy water. Remove soiled clothing.
4.3	**Suction:**	Breathe fresh air or use a respirator. Seek medical treatment.
4.4	**Eat:**	Drink water to induce vomiting and seek medical treatment.
4.5	**Most important symptoms and harmful effects:**	Dizziness, disharmony, headache, coma, gastroenteritis with vomiting, vomiting and diarrhea
4.6	**Protection of first aid personnel:**	No Data
4.7	**Tips for physicians:**	No Data

5. FIRE CONTROL MEASURES

5.1	**Flammability**	• Flammable
5.2	**Flash Point**	• 17ºC
5.3	**Fire extinguishing measures**	• Suitable for fire extinguishers: Dry Powder, foam and carbon dioxide. Water should not be used. • Special hazards that may occur when extinguishing: Vapors spread over the ground and may cause breathing difficulties and steam recombustion. • Special fire extinguishing procedure (No Data) • Special protective equipment for firefighting personnel: firefighting personnel must wear fireproof clothing and self-contained breathing apparatus.

6. ACCIDENTAL LEAKAGE MEASURES

6.1	**Personal protection:**	• Here should be no fire source when handling leakage. The personnel handling the leakage should wear adequate personal protective equipment.
6.2	**Environmental protection**	• Do not leak to soil or ditch.
6.3	**Measures for leakage**	• If leaked in an airless place. All sources of fire must be removed first. A small amount of leakage can be absorbed by paper or adsorbents and then moved to a ventilated place to naturally volatilize. A large amount of leakage must be extracted into the storage tank, and the residual parts shall be treated with adsorbents.

7. SAFE HANDLING AND STORAGE

7.1	**Deal:**	• Avoid flame, spark, high heat and freezing, touching skin and clothing, and inhaling large amounts of steam. The operating area shall have adequate exhaust and ventilation equipment to reduce exposure concentration. Cover tightly after use and store in a cool and ventilated place.
7.2	**Storage:**	• The storage area shall be protected from flame, spark, high heat and freezing. The storage area shall have adequate exhaust and air exchange facilities. Do not store in aluminum containers. The package should be labeled with hazard label. Empty drums may contain residual materials. Hazard identification should be done and carefully handled.

8. CONTACT CONTROL AND PERSONAL PROTECTION

8.1	**Engineering controls:**	• Eight-hour daily average permissible concentration: isopropanol - 400pm • Average allowable concentration for short time : isopropanol - 500ppm • Maximum permissible concentration: (No Data) • 16000ppm/8hr, 16000ppm/8hr, Biological indicators: isopropane alcohol-rats swallwed a lethal dose of 5840mg/kg, rats inhaled a lethal dose of 16000ppm/8hr, 16000ppm/8hr

8.2 Personal Protective Equipment is Generally Handled

Respiratory protection:	• Organic solvent protective cloth mask. The filter tank of the mask must be renewed regularly to avoid failure
Eye Protection:	• Goggles, eye wash
Hand Protection:	• Rubber or plastic gloves
Skin Protection:	• Protective clothing, protective shoes
Personal hygiene measures:	• Wash after work and before eating

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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1	**Physical state:**	Colorless or pale-yellow transparent liquid
9.2	**Color:**	Colorless or pale yellow
9.3	**Smell:**	Rubber alcohol, pungent smell
9.4	**Proportion:**	0.80±0.005@25ºC
9.5	**PH :**	5.6
9.6	**Boiling Point**	80ºC (176ºF)
9.7	**Flammability (Solid, Gas)**	Flammable liquid
9.8	**Melting point:**	No data
9.9	**Solubility:**	Does not dissolve in water
9.10	**Flash Point:**	17ºC (61ºF) test method: closed cup
9.11	**Spontaneous combustion temperature :**	399ºC (750ºF)
9.12	**Decomposition temperature:**	No Data
9.13	**Explosive:**	Upper explosion limit (UEL)-12% and lower explosion limited (LEL)-2%
9.14	**Octanol / Water Partition coefficient (log kow):**	No Data
9.15	**Evaporation rate (butyl acetate = 1):**	2.8
9.16	**Vapor pressure (25ºC):**	33mmHg@20ºC
9.17	**Vapor density (air = 1):**	2

10. STABILITY AND REACTIVITY

10.1	**Stability:**	Steady
10.2	**Possible hazard response under special circumstances:**	No Data
10.3	**Conditions to be avoided**	heat, water flame, spark
10.4	**Substances to be avoided:**	Co2, Co.

11. TOXICOLOGICAL INFORMATION

11.1 Exposed way :

- Exposure to isopropanol at a concentration of 400ppm for 3 to 5 minutes causes moderate irritation of the eyes, nose and throat. The dose of eye stimulation is 20ppm, the minimum lethal dose for human oral administration is 8600mmg/kg, and the minimum toxic dose for human oral administration is 5840mg/kg

11.2 Symptoms

- No Data

11.3 Urgent toxicity

- Skin: Short exposure will not irritate skin.
- Inhalation : 1. Mild irritation of upper respiratory tract at 400ppm.
  2. High concentration will cause dizziness, movement disorder (loss of coordination) and deep coma.
- Ingestion: 1. May cause dizziness, gastrointestinal pain, painful cramps, nausea, vomiting and diarrhea.
  2. Large amounts of exposure can cause loss of consciousness and death.
  3. The estimated lethal dose for humans is about 131g.
- Eyes: 1. Mild irritation at 400ppm.
  2. Direct contact with the eye can cause severe irritation.
- LD50 (Test animals: absorption pathway): 4710mg/kg (swallowed in rats)
- LC50 (Test animals: absorption pathway) : 16000mg/8H (rats, inhalation)
- Skin: prolonged or frequent

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11.4 Slow toxicity and long-term toxicity

- Intake: no specific changes in chemical or cell composition in the blood or urine were observed at 6 weeks after injection of 6.4 mg/kg of isopropanol per day.
- 3500 mg/7H (female mice, 1-19 days pregnant, inhaled) resulting in embryonic hypoplasia.

12. ECOLOGICAL DATA

12.1	**Ecological toxicity**	• No Data
12.2	**Durability and degradability**	• N/A
	Half-life (air)	• 6.2~72 hours
	Half-life (Water surface)	• 24~168 hours
	Half-life (groundwater)	• 48~336 hours
	Half-lfe (soil)	• 24~168 hours
	Bioaccumulation	• It doesn't accumulate in the body
	Fluidity in soil	• When released into the soil, it is expected to evaporate quickly and flow underground due to its high vapor pressure and low soil adsorption.
	Other adverse effects	• Highly toxic to aquatic organisms

13 WASTE DISPOSAL

Waste disposal

- Bury in a specific landfill site or incinerate in an approved solvent incinerator
- If a small amount of this into the sewer or drainage ditch with a large amount of water to wash to avoid easy gas accumulation.
- If there is a large outflow, report to the environmental protection unit

14. TRANSPORTATION INFORMATION

14.1	United Nations number	• 1219
14.2	United Nations transport Name	• Isopropyl alcohol
14.3	Packaging category	• II
14.4	Marine pollutant	• No
14.5	Special transportation methods and precautions	• No Data

15. REGULATORY INFORMATION

Available specifications

- Labor safety and health facility regulations
- Hazard and hazard labeling and general rules
- Prevention rules for organic solvent poisoning
- Allowable concentration of hazardous substances in air in the working environment
- Road traffic safety regulations
- Enterprise waste storage and disposal methods and facilities standards
- Public dangerous goods and inflammable high pressure gas set standards and safety management measures

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10. CHEMICAL REACTIVE PROPERTY

10.1	**Stability:**	Stable.
10.2	**Reactivity**	
	Conditions should be avoided:	None.
	Incompatibility:	Can react with strong oxidizer, water, moisture can arose hazardous smog.
	Hazardous polymerization:	None.

11. TOXICOLOGICAL INFORMATION

11.1	**Health effects:**	Refer to paragraph 3.3
11.2	**Sensitization:**	Not known.
11.3	**Mutagenicity:**	Not known.
11.4	**Carcinogenicity:**	Not known.
11.5	**Other health hazardous information:**	No suitable data.

12. ECOLOGICAL INFORMATION

12.1	**Ecotoxicity:**	Not suitable.
12.2	**Biodegradable:**	Not suitable.
12.3	**Bio-accumulation:**	No bio-accumulation.

13. WASTE DISPOSAL

13.1	**Product disposal methods:**	Operated the product disposal according to the statute.
13.2	**Package disposal methods:**	Operated the product disposal according to the statute.

14. TRANSPORTATION INFORMATION

14.1	**Road and railway transportation:**	Not limited.
14.2	**IMDG**	Not belong to IMDG coding
14.3	**IATA**	Not belong to IATA regulate.

15. REGULATION INFORMATION

15.1	**Statute available:**	The dangerous substance and detrimental substance general regulation.

16. OTHER INFORMATIONS

Liaison office:	KOOTAI NEW MATERIALS TECHNOLOGY PVT. LTD.

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