

MULTICORE SOLDERS LIMITED

Kelsey House • Wood Lane End • Hemel Hempstead
Hertfordshire • HP2 4RQ • UK
Telephone: +44 (0) 1442 233233 • Fax: +44 (0) 1442 269554



Ref: CP0058 RS 555-869

Material Safety Data Sheet Product Information

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product Name Multicore Red Jelly Flux and RF10 Rosin Flux Paste
Manufacturer Multicore Solders Ltd, Kelsey House, Wood Lane End,
Hemel Hempstead, Herts, HP2 4RQ, United Kingdom
Telephone +44 (0)1442 233233

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Proportion (% w/w)	Classification Symbol	Risk Phrases
Rosin (colophony)	8050-09-7	40 -50	Xn	R 42/43
Mineral oil	8012-95-1	50 - 55	-	-
Cyclohexylammonium chloride	4998-76-9	1 - 5	Xi	R 36

Risk phrases

R 36 Irritating to eyes
R 42/43 May cause sensitisation by inhalation (flux fumes) and skin contact

3. HAZARDS IDENTIFICATION

The fumes emitted at soldering temperatures may irritate the respiratory system and may cause occupational asthma. Prolonged or repeated contact may result in skin sensitisation, inflammation, dermatitis and oil acne.

4. FIRST-AID MEASURES

Inhalation Inhalation of the fumes given off during soldering may irritate the nose and throat and may cause an asthmatic type reaction.

Remove patient to fresh air and allow to rest. If respiratory distress persists seek medical attention.

Ingestion Ingestion may cause irritation of the gastric tract with nausea, vomiting and diarrhoea.

If the casualty is unconscious but breathing, place on one side in the recovery position. If breathing has stopped apply artificial respiration or apply oxygen by mask. If the patient is conscious then encourage him / her to rinse the mouth out several times with water. Do not induce vomiting. Do not give anything to drink if the patient finds it difficult to swallow. Obtain urgent medical attention.

Skin Contact Skin irritation may result on prolonged or repeated contact. The flux fumes given off during soldering may cause irritation and rash on exposed skin.

Wash the affected parts of the body with soap and warm water. Remove contaminated clothing which should be laundered before re-use. If skin irritation develops seek medical advice.

Eye Contact The fluxes and the fumes emitted during soldering will irritate the eyes.

Flush **immediately** with plenty of water. Ensure that the eyeball and the inside of the eyelids are properly bathed by gently prising open the eyelids. Also make sure that the contaminated water runs off the face away from the eyes. Obtain urgent medical attention.

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Date: 9 March 1999	Prepared by: Barry Chase	
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5. FIRE FIGHTING MEASURES

Extinguishers Suitable - dry chemical, carbon dioxide, water spray or foam.
 Unsuitable - water jet.

Under fire conditions the fluxes will release irritant fumes containing oxides of carbon. Small amounts of hydrogen halides and nitrogen oxides may also be present in the fume. Fire fighters should wear full protective clothing and self-contained, positive pressure breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Extinguish all sources of ignition. Personnel clearing up the spillage should wear plastic or rubber gloves and eye protection. Spillages should be scraped up and the waste transferred to a suitable container. Any residue should be wiped up or cleaned with water and a detergent.

7. HANDLING AND STORAGE

Avoid skin contact. Wash hands thoroughly after handling. Avoid inhalation of flux fumes given off during soldering. Do not wear contaminated clothing. This should be laundered before re-use.

The products should be stored in a cool, well ventilated area away from sources of ignition and oxidising agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering methods to prevent or control exposure to flux fumes are preferred. Local exhaust or dilution ventilation and control of process conditions are suitable methods. Where engineering controls and work practices are not effective in controlling exposure then suitable respiratory protective equipment should be used.

Occupational Exposure Limits ¹

Substance	Long-term exposure limit (8 hour TWA)	Short term exposure limit (15 minute)
Mineral oil mist	5 mg/m ³	10 mg/m ³
Rosin flux fume (as total resin acids) ²	0.05 mg/m ³ (MEL)	0.15 mg/m ³ (sensitiser)

1. From EH40: Occupational Exposure Limits (revised annually)

2. See MDHS 83: Methods for the Determination of Hazardous Substances. Resin acids in rosin (colophony) solder flux fume

Respiratory Protection: Necessary if there is a risk of exposure flux fumes.

Hand Protection: The use of nitrile or neoprene rubber gloves is recommended.

Eye Protection: Operators should wear safety glasses or goggles.

Skin Protection: When large quantities are handled plastic apron, sleeves and boots should also be worn.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Red greases
Odour Faint, pine-like
Flash point 150°C (PMCC)
Solubility in water Insoluble
Specific gravity 0.96

10. STABILITY AND REACTIVITY

Stability

The products are stable. However, when heated they will produce rosin fumes and possibly mineral oil mist.

Materials to Avoid

The products will react vigorously with oxidising agents, halogens, mineral acids and halides of phosphorous and sulphur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Ingestion

The ingredients in this fluxes have low orders of acute toxicity. Ingestion of the products will irritate the gastric tract and will cause nausea, vomiting and diarrhoea.

LD ₅₀ (oral, rat) : (g/kg)	Mineral oil	15
	Rosin (colophony)	7.6
	Cyclohexylammonium chloride	No data

Skin contact

Repeated skin contact can lead to defatting of the skin, reddening, dermatitis or oil acne.

LD ₅₀ (dermal, rabbit): (g/kg)	Rosin	>2.5
	Mineral oil	No data
	Cyclohexylammonium chloride	No data

Eye contact

The products will irritate the eyes.

Inhalation

The flux fumes given off during soldering will irritate the nose, throat and respiratory system.

Chronic Toxicity

Prolonged or repeated contact with rosin can lead to skin sensitisation and allergic contact dermatitis. The skin will react by producing anything from weals to pustules.

Prolonged or repeated exposure to flux fumes given off during soldering may lead to occupational asthma. Cases of occupational asthma resulting from exposure to rosin flux fumes during soldering operations are reportable under *The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995*.

This products contain highly refined mineral oils. The oils are not listed as possible carcinogens in the Health and Safety Executive's *Guidance Note EH58 on the Carcinogenicity of Mineral Oils*.

12. ECOLOGICAL INFORMATION

The fluxes may harm aquatic organisms by physical fouling or smothering. The products can also foul and smother birds and marine animals. If the products contaminate soil then they may prevent oxygen and water passing through thus suffocating soil organisms. The mineral oils present in the fluxes are capable of dissolving in body fats and may bioaccumulate in the tissues of organisms.

Biodegradability Mineral oil: BOD₂₁ 36 - 60% of ThOD

Aquatic Toxicity LC₀ (goldfish) 10 g/L
Testing difficult due to low solubility of product.

13. DISPOSAL CONSIDERATIONS

These products should be disposed of in accordance with local and national legislation. In the UK this is the Special Waste Regulations 1996. The recommended disposal method is controlled incineration.

14. TRANSPORT INFORMATION

The fluxes are not classified as hazardous for transport.

15. REGULATORY INFORMATION

Classification according to the Chemicals (Hazard Information and Packaging for Supply) Regulations 1994:



R 42/43 May cause sensitisation by inhalation (flux fumes) and skin contact
S 2 Keep out of reach of children
S 23 Do not breathe fumes
S 24 Avoid contact with skin
S 37 Wear suitable gloves

Applicable EC Directives

Dangerous Substances Directive 67/548/EEC as amended by Directive 92/32/EEC

Dangerous Preparations Directive 88/379/EEC as amended by Directive 90/492/EEC

Directive 80/1107/EEC on the protection of workers from the risk related to exposure to physical, chemical and biological agents at work

Applicable UK Legislation

The Health and Safety at Work etc. Act 1974

The Control of Substances Hazardous to Health Regulations 1994

The information presented in this safety data sheet is accurate to the best of knowledge and belief of Multicore Solders Ltd. As we cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, are used this safety data sheet cannot constitute the user's assessment of workplace risk. Users are advised to make their own tests to determine the safety and suitability of each product or product combination for their own purposes.

16. OTHER INFORMATION

Recommended Uses

Red Jelly flux has been formulated as a non-corrosive flux paste for soldering electrical connections. Although the residues are non-corrosive, they will generally need to be removed as they are sticky.

RF10 Rosin Flux Paste is a more highly activated version of Red Jelly Flux.

Further information on application and use can be obtained from Multicore Solders Technical Sales Team or from the Technical Data Sheet.

Further Detailed Guidance from the UK Health and Safety Executive

HS(G) 37: An Introduction to Local Exhaust Ventilation

HS(G) 53: Respiratory Protective Equipment - a Practical Guide for Users

HS(G) 97: A Step by Step Guide to the COSHH Regulations

Approved Code of Practice - Management of Health and Safety at Work

General Approved Code of Practice to the COSHH Regulations

L55 Preventing Asthma at Work: How to Control Respiratory Sensitisers

L73 A Guide to the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995

MS24: Medical Aspects of Occupational Skin Diseases

MS25: Medical Aspects of Occupational Asthma

EH26: Occupational Skin Diseases: Health and Safety Precautions

IND(G)95L Respiratory Sensitisers: A Guide for Employers

IND(G)172L Breathe Freely - A Workers' Information Card on Respiratory Sensitisers

IND(G)248L Solder fume and you

IND(G)249L Controlling health risks from rosin (colophony) based solder fluxes

Engineering Sheet No 17: Assessing exposure to rosin (colophony) based solder flux fume

MDHS 83: Methods for the Determination of Hazardous Substances. Resin acids in rosin (colophony) solder flux fume

This safety data sheet complies with the Chemicals (Hazard Information and Packaging for Supply) Regulations 1994, (Commission Directive 91/155/EEC, as amended by Directive 93/112/EEC.)

Reason for revision: To reflect the change to the Occupational Exposure Limit for rosin flux fume and to remove obsolete product Ersin Flux Paste.