

MULTICORE SOLDERS LIMITED

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Revision

Material Safety Data Sheet

Product Information

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

Product Name Ecosol[®] NR3F-04, Ecosol[®] NR3F-05, Ecosol[®] NR3F-06 and Ecosol[®] NR3S-04 Liquid Fluxes

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

These products are aqueous based liquid fluxes containing less than 5% acid activators.

3. HAZARDS IDENTIFICATION

These products may cause skin irritation on prolonged or repeated contact. In contact with eyes they will cause redness and irritation.

4. FIRST-AID MEASURES

Inhalation The products are unlikely to cause any adverse effect.

Remove the affected person to fresh air. Seek medical attention if there is any respiratory distress.

Ingestion If swallowed the product may cause irritation of the digestive tract.

Give plenty of water to drink and seek medical attention.

Skin Contact The liquids may cause skin irritation on prolonged or repeated contact.

Wash the affected parts of the body with soap and warm water. Remove contaminated clothing which should be laundered before re-use. Seek medical advice if irritation persists.

Eye Contact The liquids 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 medical attention.

5. FIRE FIGHTING MEASURES

The products are not combustible. Use any extinguisher suitable for the surrounding conditions.

6. ACCIDENTAL RELEASE MEASURES

Personnel clearing up spillages should wear rubber gloves and eye protection. Soak up the spill with sand or other inert absorbent material and transfer to a closed container.

7. HANDLING AND STORAGE

Avoid skin and eye contact. Wear rubber gloves and eye protection when using. The products should be stored in a cool, well ventilated area away from direct sunlight, concentrated sulphuric acids, reactive metals such as sodium and potassium and other materials which will react violently with water.

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Date: 8 October 1998	Prepared by: <i>Barry Chase</i>	
	Authorised by: <i>B Watson</i>	

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering methods to prevent or control exposure are preferred. Where engineering controls and work practices are not effective in controlling exposure then suitable respiratory protective equipment should be used.

Occupational Exposure Limits

None assigned to the components of these products.

Ref: *EH40 Occupational Exposure Limits* (revised annually.)

Respiratory protection: This will not normally be necessary.

Skin protection: Wear rubber or plastic gloves and suitable workwear to protect clothing.

Eye protection: Eye protection should be worn, particularly if there is a risk of splashing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colourless mobile liquids
Odour	None
Boiling point	100°C
Flash point	None
Solubility in water	Miscible
Specific gravity at 25°C	1.000

10. STABILITY AND REACTIVITY

Materials to Avoid

The product will react vigorously with concentrated acids and with reactive metals such as lithium, sodium and potassium.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Ingestion: Ingestion may cause irritation of digestive tract. LD₅₀ (oral, rat) Adipic acid 3 600 mg/kg.

Skin contact: Contact with the skin may produce irritation on prolonged contact.

Eye contact: The product will produce irritation. Inhalation of the mist or powder remaining after evaporation will cause irritation of the respiratory tract.

12. ECOLOGICAL INFORMATION

These products are not expected to have any adverse effects on the environment.

13. DISPOSAL CONSIDERATIONS

The products should be disposed of in accordance with local and national legislation. In the UK this is the Control of Pollution Act 1974, the Environmental Protection Act 1990 and regulations made under them.

Empty containers should be cleaned by appropriate methods and re-used or disposed of to landfill or by incineration. Labels should not be removed from containers until they have been cleaned of hazardous residues. Do not incinerate closed containers.

14. TRANSPORT INFORMATION

The products are not classified as hazardous for transport.

15. REGULATORY INFORMATION

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

The products are not classified as dangerous for supply.

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

Ecosol[®] fluxes are low solids, resin and halide free fluxes which meet the requirements of the most demanding legislation on VOC emissions during use. Further information on use and application can be obtained from Multicore Solders' Technical Sales Team.

Further Detailed Guidance from the UK Health and Safety Executive

Approved Code of Practice - Management of Health and Safety at Work
General Approved Code of Practice to the COSHH Regulations

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 add Ecosol[®] fluxes NR3F-05 and NR3F-06.

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Material Safety Data Sheet

Product Information

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

Product Name Ecosol NR3S-06 Liquid Flux
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

NR3S-06 is an aqueous based liquid flux containing less than 5% of acid activators.

3. HAZARDS IDENTIFICATION

The fumes given off when the product is heated will irritate the nose, throat and respiratory tract. The liquid may cause eye irritation. Prolonged skin contact may cause irritation.

4. FIRST-AID MEASURES

Inhalation The fumes given off when the product is heated will irritate the nose, throat and respiratory system.

Rescuers should ensure they are properly protected before entering the area to remove the affected person to fresh air. If the casualty is unconscious but breathing, place on one side in the recovery position. If breathing has stopped apply artificial resuscitation by the mouth-to-mouth or mouth-to-nose method or give oxygen by mask. Obtain medical attention.

Ingestion Ingestion of large quantities will irritate the gastric tract.

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 Prolonged contact with the skin may produce irritation.

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 persists seek medical advice.

Eye Contact The liquid, mist or the fumes given off when the product is heated 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 medical attention.

5. FIRE FIGHTING MEASURES

Extinguishers The product is not flammable. Use extinguishers suitable for the surrounding fire conditions.

Under fire conditions the product will release irritant fumes. Fire fighters should wear full protective clothing and self-contained, positive pressure breathing apparatus.

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	Authorised by: <i>B Watson</i>	
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6. ACCIDENTAL RELEASE MEASURES

Spillages should be soaked up in with an inert absorbent and transferred to a suitable closed container. After the spillage has been cleared up the area should be flushed with water.

7. HANDLING AND STORAGE

Use this material in a well ventilated area. Avoid inhaling the fumes given off when the product is heated. Avoid contact with skin and eyes. Wash hands thoroughly after using this product. Do not wear contaminated clothing. This should be laundered before re-use.

Keep from freezing.

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

None assigned.

Ref: *EH40 Occupational Exposure Limits* (revised annually)

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

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

Eye Protection: Operators should wear safety glasses or goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colourless, mobile liquid
Odour	None
Boiling range	100°C
Flash point	None
Solubility in water	Miscible

10. STABILITY AND REACTIVITY

The product is stable.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Ingestion: The components of this product have low orders of acute oral toxicity.

Skin contact: Prolonged contact may cause irritation.

Eye contact: The product will irritate the eyes.

Inhalation: Inhalation of the fumes given off when the product is heated will irritate the nose, throat and respiratory tract.

Chronic Toxicity

No relevant chronic toxicity studies have been identified.

13. ECOLOGICAL INFORMATION

The product is not considered to present an environmental hazard.

13. **DISPOSAL CONSIDERATIONS**

This product should be disposed of in accordance with local and national legislation. In the UK this is the Control of Pollution Act 1974, the Environmental Protection Act 1990 and regulations made under them.

14. **TRANSPORT INFORMATION**

This product is not classified as hazardous for transport.

15. **REGULATORY INFORMATION**

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

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Applicable EC Directives

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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 Management of Health and Safety at Work Regulations 1992

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16. **OTHER INFORMATION**

Recommended Uses

NR3S-06 is a low solids, low VOC liquid flux for soldering applications. Further information on application and use can be obtained from Multicore Solders Technical Sales Team.

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

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.)