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SAFETY DATA SHEET

International Standard

ISO 11014-1



Toxic



Dangerous for
the environment

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Interflux[®] Solder paste NX 9900 \acute{u}

Manufacturer : Interflux[®] Electronics NV

Eddastraat 51

BE - 9042 Gent

Tel. Nr. : ++32-9-251.49.59

Fax nr. : ++32-9-251.49.70

Collect call for emergency : ++1-703-527-3887 (Chemtrec)

2. COMPOSITION AND INFORMATION ON INGREDIENTS

The Interflux[®] Solder paste NX 9900 \acute{u} is a preparation.

Chemical nature

Components contributing to the hazard :

| <u>Materials</u> | <u>CAS N^o</u> | <u>% Range</u> | <u>Classification</u> |
|---------------------------|--------------------------|----------------|--|
| Proprietary ingredient(s) | | 0 - 15% | Xi, R36 |
| Tin (Metallic) | 7440-31-5 | 35 - 65% | NC |
| Lead (Pb) | 7439-92-1 | 30 - 60% | Repr.Cat.1:R61 Repr.Cat.3:R62 Xn; R20/22 R33 N; R50/53 |
| Silver* | 7440-22-4 | 0 - 2% | N; R50 |

All other information is strictly confidential and will only be given on request by a doctor or a medical department who is obliged to a total confidentiality.

* Alloy Sn62Pb36Ag2

3. HAZARDS IDENTIFICATION

Hazard designation : Classification: Repr.Cat.1:R61, Repr.Cat.3:R62,
Xn; R20/22, R33
N; R50/53

Specific hazards for humans and environment : This product contains Lead, for industrial use only.
Avoid eye and skin contact.

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Physical and chemical hazard :

- Instability : The product is stable.
 - Incompatibility : Avoid contact with acids, bases and oxidising agents.
 - Decomposition : *Decomposition products at high temperatures may include* : Carbon monoxide, carbon dioxide, water, nitrogen oxides, Tin oxides, Lead oxides, aldehydes.
 - Polymerisation : The product may polymerise with epoxies.
-

4. FIRST-AID MEASURES

- Inhalation** : Soldering operations have to be done in well-ventilated areas. If inhaled, bring the person to fresh air, if necessary provide oxygen mask to assist recovery. Call a physician.
 - Skin contact** : Wash the affected area with soap and water. Wash contaminated clothing before re-use.
 - Eye contact** : Flush with copious amounts of water for 15 minutes, call physician.
 - Ingestion** : Do not induce vomiting, seek medical attention immediately.
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5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media** : Carbon dioxide (CO₂), water, dry chemicals, in case of a big fire use a jet of water or alcohol-proof foam.
 - Protection of fire-fighters** : A SCBA mask is recommended when entering the fire area.
 - Fire & explosion hazards** : None.
 - Special protective equipment for a fire** : Wear full protective clothing, a face shield and self-contained breathing apparatus. Wash contaminated clothing and equipment with soap and water.
 - Flash point** : Not available
-

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Provide sufficient ventilation. Rubber gloves, eyeglasses.
 - Environmental precautions:** Contain spillage at source by absorbing with sand. Do not allow spillage to spread to sewer or ground. Wash area thoroughly.
Small spillage : absorb with rags, sand or other absorbent material.
 - Methods for cleaning up** : Scrape up spillage. Prevent entry into drains, sewers and water sources. Excess paste should be stored in closed containers. Disposal should be done in accordance with Local, State or National Legislation.
-

7. HANDLING AND STORAGE

- Handling**
- Technical measures** : Provide good ventilation in the working area. Keep the container



tightly closed. Store between 5°C – 10°C for six months shelf-life. If stored in a refrigerator allow the paste to stabilise to room temperature before use. Keep away from direct sunlight.

Precautions for safe handling : General ventilation should be provided.

Storage

Technical measures : No special precautions. NX 9900ú has a minimum shelf-life of six months.

Storage class : 10-13. **VbF-class :** None.

Storage conditions : Please refer to the above section “Technical Measures”.

Incompatibility of the product : Not applicable.

Safe packaging materials : Not applicable.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures : Refer to section 7.

Control parameters : Threshold limit values (MAC)

| Name/Units | ACGIH TLV |
|---|----------------------------------|
| Tin Metal, Oxide and most inorganic compounds., as Sn | 8 hr 2 mg/m ³ |
| Lead, inorganic dust and fumes, as Pb | EU OEL 0.15 mg/m ³ |
| Silver | 0.1 mg/m ³ |

The following ingredient is listed as potential carcinogen :

| Ingredient | ACGIH | OSHA |
|-----------------|-------|------|
| Lead (metallic) | X | X |

Personal protective equipment

Special instructions for protection and hygiene : Industrial hygiene is always recommended. Ingestion can be prevented by wearing proper gloves to avoid contact with the paste. Wash the hands with water and soap after working.

Respiratory protection : None required if adequate ventilation is present. There is low or no airborne over-exposure during use at room temperature, while screen or stencil printing.

Hand protection : Protective gloves, preferably in rubber. Solder pastes that contain Lead, can be a significant source of over- exposure by ingestion. Avoid skin contact.

Eye protection : Use safety glasses.

Skin and body protection : Additional protection equipment is normally not required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Viscous paste

Colour : Grey

Odour : Mild odour

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| | | |
|----------------------------------|---|-------------------------------------|
| pH, 5% aq. solution | : | 3 |
| Melting point Sn62Pb36Ag2 | : | 179°C |
| Sn63Pb37 | : | 183°C |
| Solubility in water | : | Insoluble (residue after soldering) |

10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Stability | : | Stable. |
| Hazardous reactions | : | Not applicable. |
| Conditions to avoid | : | Ignition sources. |
| Materials to avoid | : | Strong oxidising agents. |
| Hazardous decomposition products | : | Not applicable if you keep the temp. below 300°C. |

11. TOXICOLOGICAL INFORMATION

Acute toxicity : NX 9900 is a non-corrosive material.

Other information on health effects :

Tin (metallic)

Elemental Tin is not generally considered toxic.

Lead (metallic)

Lead can cause pathological lesions of the kidneys, liver, male gonads, nervous system, blood vessels and other tissues. Industrial Lead poisoning commonly occurs following prolonged exposure to Lead or its compounds. Metallic Lead is considered to be less toxic than Lead compounds such as the carbonate, the monoxide and sulphate.

The presence of Lead-bearing materials or Lead compounds in an industrial plant does not necessarily result in exposure on the part of the workman. The Lead must be in such a form, and so distributed, as to gain entrance into the body or tissues of the workman in measurable quantity, otherwise no exposure can be said to exist. It is a suspected carcinogen of the lungs and kidneys.

Proprietary Ingredient(s)

Harmful if swallowed, inhaled or absorbed through skin

Oral-rat LD50: 3 g/kg

Proprietary Ingredient(s)

May be a low order sensitiser on a small percentage of individuals if the skin exposure is sufficiently intimate and the duration of exposure is sufficiently long.

The expected LD50 > 2000 mg/kg.

Noxious and irritating fumes may be released on melting this product. The thermal decomposition of these vapours at about 400 °C may give rise to products which, if not ventilated adequately, could cause asthmatic attacks in a small percentage of exposed workers.

Proprietary Ingredient(s)

Can cause irritation to eyes and skin.

LD 50 oral: > 5g/Kg

Proprietary Ingredient(s)

Cause eye and skin irritation. Irritating to mucous membranes and upper respiratory tract.

Oral LD 50 (rats) : > 5 g / kg.

Oral (sparrow) : LD 50 = 6g/kg



Proprietary Ingredient(s)

Harmful if swallowed, inhaled or absorbed through skin.

Oral LD50 (rats): > 1310 mg/kg

Oral LD50 (sparrow): 4 g/kg

Proprietary Ingredient(s)

May be harmful by inhalation, ingestion or skin absorption. Ipr-rat: LD50: 1500mg/Kg

Proprietary Ingredient(s)

Harmful if swallowed, inhaled, or absorbed through skin.

Causes severe eye irritation.

Proprietary Ingredient(s)

At room temperature vapours are minimal due to physical properties.

A single exposure is not likely to be hazardous.

LD50 skin absorption (rat) > 2g/kg

Proprietary Ingredient(s)

Exposure can cause irritation of the liver. May be harmful by inhalation.

12. ECOLOGICAL INFORMATION

Environmental information : Tin, Lead and Silver compounds are not biodegradable and may therefore not be disposed in the environment.

General information :

- WGK : Tin (class 0), Lead (class 2) and Silver (class 3). Do not dispose into the groundwater, the drainage or the sewerage. Already pollution of the drinking water when very small quantities of the product are disposed into the sub-soil.
- Prevent the emission of this product to the environment by blocking the drains, access to water and access to fields.

13. DISPOSAL CONSIDERATIONS

Product : Recommendation : The product may be a hazardous waste due to the potential Lead content. Assure disposal of all waste generated by the spill complies with the Local, State and Federal regulations.

Packaging : Recommendation : Disposal must be done according to official regulations.

14. TRANSPORT INFORMATION

International regulations

Road & Rail Transport (ADR/RID) - Sea Transport (IMDG) - Air Transport (ICAO/IATA) :

Non-dangerous goods.

Label : Xn : harmful **Number of statistics :** 3810 1000



15. REGULATORY INFORMATION (EU)

Information on the warning label

Hazard symbol(s)



Toxic, dangerous for the environment

Indication of danger Xn : harmful. Dangerous for the environment.

R - phrases :

R61: May cause harm to the unborn child.

R62: Possible risk of impaired fertility.

R21/22 : Harmful in contact with skin and if swallowed.

R33: Danger of cumulative effects.

R50/53: very toxic to aquatic organisms, may cause long term adverse effect in the aquatic environment.

S - phrases :

S2 : Keep out of reach of children.

S16 : Keep away from sources of ignition. No smoking.

S20/21 : When using do not eat, drink or smoke.

S36/37 : Wear suitable protective clothing and gloves.

Other Legal Regulations

German water pollution risk (WGK) : 0 (Tin) 2 (Lead) 3 (Silver)

Substances that affect the ozone layer : Substances that affect the ozone layer are not present in this preparation and are not used for its production.

EINECS : All ingredients have been registered.

16. OTHER INFORMATION

Product information in other European languages can be obtained at *Interflux® Electronics NV, 9042 Gent*. Because we cannot anticipate or control the many different conditions under which this information and our products may be used, we do not guarantee the applicability or the accuracy of this information or the suitability of our products in any given situation. Users of our products should make their own tests to determine the suitability of each such product for their particular purposes. The products discussed are sold without such warranty, either expressed or implied.

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