

Safety Data Sheet Solder Flux No Clean

SECTION 1: Identification

1.1 Product identifier

Product name	Solder Flux No Clean
Product number	SF-NC
Brand	Metron

1.2 Other means of identification

951

1.4 Supplier's details

Name	Metron Optics
Address	302 Washington Street, #145 San Diego, CA 92103 USA
Telephone	858-755-4477
Fax	858.755.4752
email	mail@metronusa.com

1.5 Emergency phone number(s)

CHEMTREC: CHEMTREC 24-Hour Emergency Telephone Number:
(800)424-9300
CHEMTREC 24-Hour Emergency Telephone Number: ((Outside of the U.S.
and Canada):): (703)527-3887

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

- Flammable liquids (chapter 2.6), Cat. 3
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3
- Flammable liquids (chapter 2.6), Cat. 2
- Specific target organ toxicity, repeated exposure (chapter 3.9), Cat. 2
- Eye damage/irritation (chapter 3.3), Cat. 1
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1
- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 1
- Acute toxicity (chapter 3.1), Cat. 3
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 1

2.2 GHS label elements, including precautionary statements

Pictogram

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Signal word

Danger

Hazard statement(s)

H226	Flammable liquid and vapor
H336	May cause drowsiness or dizziness
H225	Highly flammable liquid and vapor
H373	May cause damage to organs through prolonged or repeated exposure
H318	Causes serious eye damage
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H331	Toxic if inhaled
H311	Toxic in contact with skin
H301	Toxic if swallowed
H370	Causes damage to organs

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. N-BUTYLACETATE

Concentration	$\geq 5 - \leq 10$ % (Weight)
EC no.	204-658-1
CAS no.	123-86-4
Index no.	607-025-00-1

- Flammable liquids (chapter 2.6), Cat. 3
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3

H226	Flammable liquid and vapor
H336	May cause drowsiness or dizziness

2. Proprietary

Concentration	$\geq 1 - \leq 5$ % (Weight)
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3. Non Hazardous

Concentration	$\geq 1 - \leq 5$ % (Weight)
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4. ETHANOL

Concentration	$\geq 30 - \leq 60$ % (Weight)
EC no.	200-578-6
CAS no.	64-17-5
Index no.	603-002-00-5

- Flammable liquids (chapter 2.6), Cat. 2

H225	Highly flammable liquid and vapor
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5. Isopropyl alcohol 70% in water

Concentration	>= 10 - <= 30 % (Weight)
EC no.	414-810-0
CAS no.	67-63-0
Index no.	607-403-00-6

- Specific target organ toxicity, repeated exposure (chapter 3.9), Cat. 2
- Eye damage/irritation (chapter 3.3), Cat. 1
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1
- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 1

H318	Causes serious eye damage
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

6. Methanol

Concentration	>= 5 - <= 10 % (Weight)
EC no.	200-659-6
CAS no.	67-56-1
Index no.	603-001-00-X

- Flammable liquids (chapter 2.6), Cat. 2
- Acute toxicity (chapter 3.1), Cat. 3
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 1

H225	Highly flammable liquid and vapor
H301	Toxic if swallowed
H311	Toxic in contact with skin
H331	Toxic if inhaled
H370	Causes damage to organs

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	DANGER! Flammable. Severe Irritant. Flux fumes during soldering may cause irritation and damage of mucous membranes and respiratory system. Wash thoroughly after handling. Avoid inhaling vapors, mists, or fumes
If inhaled	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
In case of skin contact	Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
In case of eye contact	Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.

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If swallowed

If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms/effects, acute and delayed

Prolonged skin contact causes burns.
Repeated or prolonged inhalation may cause toxic effects.
Overexposure can cause headaches, dizziness, nausea, and vomiting.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Aggravation of Pre-Existing Conditions: May aggravate pre-existing respiratory disorders, allergy, eczema, skin conditions.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.

5.3 Special protective actions for fire-fighters

Unsuitable Media: Do not use a solid water stream as it may scatter and spread fire.
Protective Equipment: As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
Hazardous Combustion Byproducts Oxides of carbon, oxides of nitrogen, aliphatic aldehydes, and other organic substances may be formed during combustion..

Further information

Flash Point: 18 °C (64 °F)
Auto Ignition Temperature: 399.0 °C (698 °F)
Lower Flammable/Explosive Limit: 2.0 Vol %
Upper Flammable/Explosive Limit: 12.0 Vol %

NFPA Ratings:
NFPA Health: 1
NFPA Flammability: 3
NFPA Reactivity: 0
NFPA Other:
SECTION 6:

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate area and keep unnecessary and unprotected personnel from entering the spill area. Avoid breathing vapor, aerosol or mist. Avoid contact with skin, eyes and clothing.

6.2 Environmental precautions

Avoid runoff into storm sewers, ditches, and waterways.

6.3 Methods and materials for containment and cleaning up

Contain spills with an inert absorbent material such as soil, sand or oil dry.

Reference to other sections

Remove all sources of ignition. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Collect spill with a non-sparking tool.

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Place into a suitable container for disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use with adequate ventilation. Avoid breathing vapor and fumes. Use only in accordance with directions. To reduce potential for static discharge, bond and ground containers when transferring material.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, direct sunlight, and incompatible substances. Keep container tightly closed when not in use.

Specific end use(s)

DANGER! Rags, steel wool and waste soaked with this product may spontaneously catch fire if improperly discarded or stored. To avoid a spontaneous combustion fire, immediately after use, place rags, steel wool or waste in a sealed, water-filled, metal container.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

CAS: 123-86-4

n-Butyl-acetate

Cal/OSHA: 150 ppm, (ST) 200 ppm PEL inhalation; NIOSH: 150 ppm, (ST) 200 ppm REL inhalation; OSHA: 150 ppm PEL inhalation; 710 mg/m³ PEL inhalation

CAS: 64-17-5

Ethyl alcohol (Ethanol)

Cal/OSHA: 1000 ppm PEL inhalation; NIOSH: 1000 ppm REL inhalation; OSHA: 1000 ppm PEL inhalation; 1900 mg/m³ PEL inhalation

CAS: 67-56-1

Methyl alcohol

Cal/OSHA: 200 ppm, (ST) 250 ppm, (C) 1000 ppm PEL inhalation; NIOSH: 200 ppm, (ST) 250 ppm REL inhalation; OSHA: 200 ppm PEL inhalation; 260 mg/m³ PEL inhalation; ; ; ACGIH: 200 ppm PEL-TWA; 250 ppm STEL; NIOSH: 200 ppm, 325 mg/m³ PEL-TWA; OSHA: 200 ppm, 260 mg/m³ PEL-TWA

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety glasses with side-shields

Body protection

Eye/Face Protection: Safety glasses with side-shields

Hand Protection Description: Wear appropriate protective gloves. Consult glove manufacturer's data for permeability data.

Nitrile rubber or natural rubber gloves are recommended.

Respiratory protection

A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any

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other circumstances where air purifying respirators may not provide adequate protection.

Environmental exposure controls

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form	Liquid Colorless
Odor	Alcohol-like
Odor threshold	
pH	
Melting point/freezing point	Not determined
Initial boiling point and boiling range	78 °C (172 °F) Not determined
Flash point	18 °C (64 °F)
Evaporation rate	
Flammability (solid, gas)	
Upper/lower flammability limits	
Upper/lower explosive limits	
Vapor pressure	33 hPa (25 mm Hg) (at 20 °C (68 °F))
Vapor density	0.814 g/cm ³ (at 20 °C (68 °F))
Relative density	
Solubility(ies)	
Partition coefficient: n-octanol/water	
Auto-ignition temperature	399 °C (750 °F)
Decomposition temperature	
Viscosity	
Explosive properties	
Oxidizing properties	

SECTION 10: Stability and reactivity

10.2 Chemical stability

Stable under normal temperatures and pressures.

10.4 Conditions to avoid

Keep away from heat, ignition sources and incompatible materials.

10.5 Incompatible materials

Oxidizing Agents. Strong Acids and alkalis.

10.6 Hazardous decomposition products

Carbon-monoxide and carbon-dioxide-Aldehydes

SECTION 11: Toxicological information

Information on toxicological effects

Additional information

N-Butyl Acetate :

RTECS Number: AF7350000

Eye: Eye - Human Standard Draize test: 300 ppm

Eye - Rabbit Standard Draize test: 100 mg (RTECS)

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Skin: Administration onto the skin - Rabbit Standard Draize test: 500 mg/24H

Administration onto the skin - Rabbit LD50: >17600 mg/kg [Details of toxic effects not reported other than lethal dose value.] (RTECS)

Inhalation: Inhalation. - Rat LC50: 390 ppm/4H [Behavioral - changes in motor activity

(specific assay) Lungs, Thorax, or Respiration - acute pulmonary edema Blood - hemorrhage]

Inhalation. - Mouse LC50: 6 gm/m³/2H [Details of toxic effects not reported other than lethal dose value.] (RTECS)

Ingestion: Oral - Rat LD50: 10768 mg/kg [Behavioral - somnolence (general depressed

activity) Lungs, Thorax, or Respiration - other changes] Liver - other changes] Oral - Mouse LD50: 6 gm/kg [Details of toxic effects not reported other than lethal dose value.] (RTECS)

Non Hazardous :

RTECS Number: ZC0110000

Ingestion: Oral - Rat LD50 : >90 mL/kg [Details of toxic effects not reported other than lethal dose value. (RTECS)

Ethanol :

RTECS Number: KQ6300000

Eye: Eye - Rabbit Standard Draize test: 500 mg

Eye - Rabbit Standard Draize test: 500 mg/24H

Eye - Rabbit Rinsed with water: 100 mg/4S (RTECS)

Skin: Administration onto the skin - Rabbit Open irritation test: 400 mg

Administration onto the skin - Rabbit Standard Draize test: 20 mg/24H (RTECS)

Inhalation: Inhalation. - Rat LC50: 20000 ppm/10H [Details of toxic effects not reported other than lethal dose value.]

Inhalation. - Mouse LC50: 39 gm/m³/4H [Details of toxic effects not reported other than lethal dose value.] (RTECS)

Ingestion: Oral - Rat LD50: 7060 mg/kg [Lungs, Thorax, or Respiration - other changes]

Oral - Mouse LD50: 3450 mg/kg [Details of toxic effects not reported other than lethal dose value.]

Oral - Rat LD50: 7 gm/kg [Details of toxic effects not reported other than lethal dose value.] (RTECS)

Isopropyl alcohol :

RTECS Number: NT8050000

Eye: Eye - Rabbit Standard Draize test: 100 mg

Eye - Rabbit Standard Draize test: 10 mg

Eye - Rabbit Standard Draize test: 100 mg/24H (RTECS)

Skin: Administration onto the skin - Rabbit Standard Draize test: 500 mg

Administration onto the skin - Rabbit LD50: 12800 mg/kg [Details of toxic effects not reported other than lethal dose value.] (RTECS)

Inhalation: Inhalation. - Rat LC50: 16000 ppm/8H [Details of toxic effects not reported other than lethal dose value.]

Inhalation. - Mouse LC50: 53000 mg/m³ [Behavioral - general anesthetic Lungs, Thorax, or Respiration - other changes]

Inhalation. - Rat LC50: 72600 mg/m³ [Behavioral - general anesthetic Lungs, Thorax, or Respiration - other changes] (RTECS)

Ingestion: Oral - Rat LD50: 5045 mg/kg [Behavioral - altered sleep time (including change

in righting reflex) Behavioral - somnolence (general depressed activity)] Oral - Mouse LD50: 3600 mg/kg

[Behavioral - altered sleep time (including change in righting reflex) Behavioral - somnolence (general

depressed activity)] Oral - Mouse LD50: 3600 mg/kg [Behavioral - general anesthetic] Oral - Rat LD50: 5000

mg/kg [Behavioral - general anesthetic] (RTECS)

Methanol :

RTECS Number: PC1400000

Eye: Eye - Rabbit Standard Draize test: 40 mg

Eye - Rabbit Standard Draize test: 100 mg/24H (RTECS)

Skin: Administration onto the skin - Rabbit Standard Draize test: 20 mg/24H

Administration onto the skin - Rabbit LD50: 15800 mg/kg [Details of toxic effects not reported other than lethal dose value.] (RTECS)

Inhalation: Inhalation. - Rat LC50: 64000 ppm/4H [Details of toxic effects not reported other than lethal dose value.] (RTECS)

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Ingestion: Oral - Mouse LD50: 7300 mg/kg [Details of toxic effects not reported other than lethal dose value.]

Oral - Rat LD50: 5600 mg/kg [Details of toxic effects not reported other than lethal dose value.] (RTECS)

SECTION 12: Ecological information

Toxicity

No ecotoxicity data was found for the product.

No environmental information found for this product.

SECTION 13: Disposal considerations

Disposal of the product

Dispose of contents/ container in accordance with the local/regional/national/international regulations. Non Household Setting: Products covered by this SDS, in their original form, when disposed as waste, are considered non hazardous waste according to Federal RCRA regulations (40 CFR 261). Disposal should be in accordance with local, state and federal regulations. Solutions of diluted detergent in the course of use, may be allowed to be flushed down sewer. First check with your local water treatment plant. Recycling is undiluted scrap product. Do not landfill. Household Use: Household product is safe for disposal down the drain during detergent use or in the trash. Dispose of empty bottle in the trash or recycle where facilities exist.

SECTION 14: Transport information

DOT (US)

UN Number: UN1987

Class: 3

Packing Group: II

Proper Shipping Name: Alcohols, n.o.s. (Ethanol, Isopropanol)

IMDG

UN Number: UN1987

Class: 3

Packing Group: II

Proper Shipping Name: Alcohols, n.o.s. (Ethanol, Isopropanol)

IATA

UN Number: UN1987

Class: 3

Packing Group: II

Proper Shipping Name: Alcohols, n.o.s. (Ethanol, Isopropanol)

SECTION 15: Regulatory information

HMIS Rating

Health 1

Flammability 3

Physical hazard 2

Personal protection X

SECTION 16: Other information