

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier:** Flux
- **Trade name:** Carr's Orange Flux
- **Article number:** C1028 (50ml), C1029 (250ml)
- **1.2 Relevant identified uses of the substance or mixture and uses advised against** Soldering Flux
- **Application of the substance / the mixture**  
Soldering
- **1.3 Details of the supplier of the safety data sheet**
- **Supplier:**  
Phoenix Precision Paints Limited  
13 Orwell Court,  
Wickford,  
Essex SS11 8YJ  
Tel +44 (0)1268 730549  
EMAIL: sales@phoenix-paints.co.uk
- **Further information obtainable from:** sales@phoenix-paints.co.uk
- **1.4 Emergency telephone number:** +44 (0)1268 730549 (Business hours)

### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02

Flammable Liquid Cat 2  
EyeIrritation Cat 2  
Specific target organ tox, single exp. Cat 3 (STOT SE 3, H336)



GHS07

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS02, GHS07
- **Signal word:** Danger

- **Hazard-determining components of labelling:**

PROPAN-2-OL

- **Hazard statements**

Highly Flammable Liquid and Vapour  
Causes Serious Eye Irritation  
May Cause Drowsiness or Dizziness

- **Precautionary statements**

Keep Away from Heat, Hot Surfaces, Sparks, Open Flames and other Ignition Sources. No Smoking  
Wear protective gloves/protective clothing/eye protection/face protection  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing  
Store in a Well Ventilated Place, Keep Container Tightly Closed

## Safety data sheet according to 1907/2006/EC, Article 31

**Trade name:** Carr's Orange Flux

### • 2.3 Other hazards




The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC)  $\geq 0.1\%$  published by the European Chemicals Agency (ECHA) under article 57 of REACH: <http://echa.europa.eu/fr/candidate-list-table> The mixture satisfies neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

### Fumes during soldering.

It is recommended to wear safety glasses, protective gloves, to wash hands after use and to work with a good ventilation of area, and suitable fumes extraction system locally installed.

## SECTION 3: Composition / Information on ingredients

- **3.2 Chemical characterisation:** Mixtures
- Description: Mixture of substances listed below with nonhazardous additions.

CAS: 67-63-0 EEC No. 200-661-7	 PROPAN-2-OL 	Flam. Liq. 2, H225. Eye Irrit. 2, H319. STOT SE 3, H336	12 - 15%
CAS: 65997-05-9 EEC No. 500-163-2	MODIFIED ROSIN		8 - 10%
CAS: 124-04-9 EEC No. 204-673-3	 ADIPIC ACID	Eye Irrit. 2, H319	1 - 2%
CAS: 557-66-4 EEC No. 209-182-8	ETHYLAMMONIUM CHLORIDE		1 - 2%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

## SECTION 4: First Aid Measures

### 4.1 Description of first aid measures

- **General information:** As a general rule, in case of doubt or if symptoms persist, always call a doctor. NEVER induce swallowing by an unconscious person.
- **After inhalation:** In the event of massive inhalation, remove the person exposed to fresh air. Keep warm and at rest. If the person is unconscious, place in recovery position. Notify a doctor in all events, to ascertain whether observation and supportive hospital care will be necessary. If breathing is irregular or has stopped, effect mouth-to-mouth resuscitation and call a doctor.
- **After skin contact:** Beware of products that may remain between the skin and clothes, the watch, the shoes... Immediately wash with water and soap and rinse thoroughly. If skin irritation persists, get medical attention. If burns should occur from molten metal, treat for burn and get medical assistance if necessary.
- **After eye contact:** Wash thoroughly with soft, clean water for 15 minutes holding the eyelids open. If there is any redness, pain or visual impairment, consult an ophthalmologist.
- **After swallowing:** In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water and consult a doctor. Keep the person exposed at rest. Do not force vomiting. Seek medical attention, showing the label. If swallowed accidentally, call a doctor to ascertain whether observation and hospital care will be necessary. Show the label.

### 4.2 Most important symptoms and effects, both acute and delayed

No data available.

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available.

**Safety data sheet**  
**according to 1907/2006/EC, Article 31**

**Trade name:** Carr's Orange Flux

### SECTION 5: Fire Fighting Measures

Chemical powders, carbon dioxide and other extinguishing gas are suitable for small fires.

#### 5.1 Extinguishing media

Keep packages near the fire cool, to prevent pressurised containers from bursting.

• **Suitable extinguishing agents:** Suitable methods of extinction In the event of a fire, use :- sprayed water or water mist- foam- multipurpose ABC powder- BC powder- carbon dioxide (CO<sub>2</sub>) Prevent the effluent of fire-fighting measures from entering drains or waterways.

• **Unsuitable extinguishing media:** water jet

#### 5.2 Special hazards arising from the substance or mixture:

A fire will often produce a thick black smoke.

Exposure to decomposition products may be hazardous to health. Do not breathe in smoke. In the event of a fire, the following may be formed :- carbon monoxide (CO)- carbon dioxide (CO<sub>2</sub>)

#### • 5.3 Advice for firefighters

Fire-fighting personnel are to be equipped with autonomous insulating breathing apparatus.

Wear full body protective clothing and appropriate self-contained breathing apparatus.

Cool adjacent containers with water spray.

### SECTION 6: Accidental Release Measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8. Keep away from heat and sun. Keep away from flames and sources of ignition. Avoid skin and eyes contact and inhalation of vapors.

**For non first aid worker:** Because of the organic solvents contained in the mixture, eliminate sources of ignition and ventilate the area. Avoid inhaling the vapors. Avoid any contact with the skin and eyes.

If a large quantity has been spilled, evacuate all personnel and only allow intervention by trained operators equipped with safety apparatus.

**For first aid worker:** First aid workers will be equipped with suitable personal protective equipment (See section 8).

### SECTION 7: Handling and Storage

Requirements relating to storage premises apply to all facilities where the mixture is handled.

#### 7.1. Precautions for safe handling:

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

Ensure that there is adequate ventilation, especially in confined areas.

Wear protective shoes and gloves.

The workplace must be ventilated and fumes must be captured at the emission source.

#### **Fire prevention:**

Handle in well-ventilated areas.

Vapours are heavier than air. They can spread along the ground and form mixtures that are explosive with air.

Prevent the formation of flammable or explosive concentrations in air and avoid vapor concentrations higher than the occupational exposure limits.

Prevent the accumulation of electrostatic charges with connections to earth.

The mixture can become electrostatically charged : always earth during decanting operations. Wear antistatic shoes and clothing and floors should be electrically conductive.

Use the mixture in premises free of naked flames or other sources of ignition and ensure that electrical equipment is suitably protected.

Keep packages tightly closed and away from sources of heat, sparks and naked flames.

Do not use tools which may produce sparks. Do not smoke.

Prevent access by unauthorised personnel.

**Safety data sheet**  
**according to 1907/2006/EC, Article 31**

**Trade name:** Carr's Orange Flux

### SECTION 7: Handling and Storage

**Recommended equipment and procedures:**

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Avoid inhaling vapors. Carry out any industrial operation which may give rise to this in a sealed apparatus.

Provide vapor extraction at the emission source and also general ventilation of the premises.

Also provide breathing apparatus for certain short tasks of an exceptional nature and for emergency interventions.

In all cases, recover emissions at source.

Avoid eye contact with this mixture.

Packages which have been opened must be reclosed carefully and stored in an upright position.

**Prohibited equipment and procedures:**

No smoking, eating or drinking in areas where the mixture is used.

**7.2. Conditions for safe storage, including any incompatibilities:**

No data available.

**Storage:**

Keep the container tightly closed in a dry, well-ventilated place.

Keep away from all sources of ignition - do not smoke.

Keep well away from all sources of ignition, heat and direct sunlight.

Avoid accumulation of electrostatic charges.

The floor must be impermeable and form a collecting basin so that, in the event of an accidental spillage, the liquid cannot spread beyond this area.

**Packaging:**

Always keep in packaging made of an identical material to the original.

**7.3. Specific end use(s):** No data available.

### SECTION 8: Exposure Controls / Personal Protection

• **Additional information about design of technical facilities:** No further data; see item 7.

• **8.1 Control parameters**

• **Ingredients with limit values that require monitoring at the workplace:**

Exposure limits:EH40/2005 Containing the workplace exposure limits (WELs) for use with the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended). Updated by September 2006 official press release and October 2007 Supplement.

**200-661-7 PROPAN-2-OL**

WEL	TWA: 400 ppm STEL: 500ppm
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**Derived no effect level (DNEL) or derived minimum effect level (DMEL):**

**ADIPIIC ACID (CAS: 124-04-9)**

**Final use:**

Exposure method:

Potential health effects:

DNEL :

**Workers.**

Inhalation.

Short term local effects.

5 mg of substance/m<sup>3</sup>

**PROPAN-2-OL (CAS: 67-63-0)**

**Final use:**

Exposure method:

Potential health effects:

DNEL :

**Workers.**

Dermal contact.

Long term systemic effects.

888 mg/kg body weight/day

Exposure method:

Potential health effects:

DNEL :

Inhalation.

Long term systemic effects.

500 mg of substance/m<sup>3</sup>

**Safety data sheet**  
**according to 1907/2006/EC, Article 31**

**Trade name:** Carr's Orange Flux

**Predicted no effect concentration (PNEC):**

**ADIPIIC ACID (CAS: 124-04-9)**

Environmental compartment: Soil.  
PNEC: 0.0228 mg/kg

Environmental compartment: Fresh water.  
PNEC: 0.126 mg/l

Environmental compartment: Sea water.  
PNEC: 0.0126 mg/l

**PROPAN-2-OL (CAS: 67-63-0)**

Environmental compartment: Soil.  
PNEC: 28 mg/kg

Environmental compartment: Fresh water.  
PNEC: 140.9 mg/l

Environmental compartment: Sea water.  
PNEC: 140.9 mg/l

Environmental compartment: Intermittent waste water.  
PNEC: 140.9 mg/l

Environmental compartment: Fresh water sediment.  
PNEC: 552 mg/kg

Environmental compartment: Marine sediment.  
PNEC: 552 mg/kg

• **Additional information:** The lists valid during the making were used as basis.

• **8.2 Exposure controls**

• **Personal protective equipment:**

Use personal protective equipment that is clean and has been properly maintained. Store personal protective equipment in a clean place, away from the work area. Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

**Eye / face protection:**



Avoid contact with eyes. Use eye protectors designed to protect against liquid splashes. Before handling, wear safety goggles with protective sides accordance with standard EN166.

In the event of high danger, protect the face with a face shield.

Prescription glasses are not considered as protection.

Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours.

Provide eyewash stations in facilities where the product is handled constantly.

**Hand protection:**



Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN374.

Gloves must be selected according to the application and duration of use at the workstation.

Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

Type of gloves recommended :-

Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))

Butyl Rubber (Isobutylene-isoprene copolymer)

Recommended properties :- Impervious gloves in accordance with standard EN374

**Safety data sheet**  
**according to 1907/2006/EC, Article 31**

**Trade name:** Carr's Orange Flux

**Body protection:**



Suitable type of protective clothing:-

protective work clothing

protective shoes

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

**Respiratory protection:** Avoid breathing vapours.

If the ventilation is insufficient, wear appropriate breathing apparatus.

When workers are confronted with concentrations that are above occupational exposure limits, they must wear a suitable, approved, respiratory protection device.

Anti-gas and vapour filter(s) (Combined filters) in accordance with standard EN14387:- AX (Brown)

Independent breathing apparatus for respiratory protection:

It is recommended to set up a fumes exhaust system closer to their emission. In case of insufficient ventilation, wear suitable respiratory equipment. In case of formation of vapors, wear suitable respiratory equipment with filter.

## SECTION 9: Physical and Chemical Properties

**• 9.1 Information on basic physical and chemical properties**

**• General Information**

**• Appearance:**

**Form:** Liquid

**Colour:** Orange

**• Odour:** Distinct

**• Odour threshold:** Not determined.

**• pH-value:** Not relevant.

**• Change in condition**

**Melting point/Melting range:** Not specified

**Boiling point/Boiling range:** > 35°C

**• Flash point:** 12.00 °C

**• Flammability (solid, gaseous):** Not applicable.

**• Ignition temperature:** Not applicable.

**• Decomposition temperature:** Not determined.

**• Self-igniting:** Not specified

**• Danger of explosion:** Heating may cause an explosion.

**• Explosion limits:**

**Lower:** Not determined.

**Upper:** Not determined.

**• Vapour pressure at 50 °C:** Below 110 kPa (1.10bar)

**• Density at 20 °C:** Not specified

**• Relative density** Not determined.

**• Vapour density** Not determined.

**• Evaporation rate** Not determined.

**Safety data sheet**  
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**Trade name:** Carr's Orange Flux

• <b>Solubility in / Miscibility with water:</b>	Insoluble.
• <b>Partition coefficient (n-octanol/water):</b>	Not determined.
• <b>Viscosity:</b>	
<b>Dynamic at 20 °C:</b>	Not determined
<b>Kinematic:</b>	Not determined.
• <b>Solvent content:</b>	
<b>Organic solvents:</b>	Not determined
<b>Solids content:</b>	0.00%
• <b>9.2 Other information</b>	No further relevant information available.

## SECTION 10: Stability and Reactivity

• **10.1 Reactivity:**

The product is stable under normal conditions of use and storage, but reacts with strong oxidisers.

• **10.2 Chemical stability:**

This mixture is stable under the recommended handling and storage conditions in section 7.

• **10.3 Possibility of hazardous reactions:**

When exposed to high temperatures, the mixture can release hazardous decomposition products, such as carbon monoxide and dioxide, fumes and nitrogen oxide. Reaction with strong oxidizers.

• **10.4 Conditions to avoid:**

Any apparatus likely to produce a flame or to have a metallic surface at high temperature (burners, electric arcs, furnaces etc.) must not be allowed on the premises.

Avoid :- accumulation of electrostatic charges.- heating- heat- flames and hot surfaces

• **10.5 Incompatible materials:** None Known

• **10.6 Hazardous decomposition products:**

The thermal decomposition may release/form :- carbon monoxide (CO)- carbon dioxide (CO2)

## SECTION 11: Toxicological Information

• **11.1 Information on toxicological effects**

May have reversible effects on the eyes, such as eye irritation which is totally reversible by the end of observation at 21 days. Splashes in the eyes may cause irritation and reversible damage Narcotic effects may occur, such as drowsiness, narcosis, decreased alertness, loss of reflexes, lack of coordination or dizziness. Effects may also occur in the form of violent headaches or nausea, judgement disorder, giddiness, irritability, fatigue or memory disturbance.

**11.1.1. Substances Acute toxicity:**

ETHYLAMMONIUM CHLORIDE (CAS: 557-66-4)

Oral route: LD50 > 3200 mg/kg  
Species : Rat

ADIPIC ACID (CAS: 124-04-9)

Oral route: LD50 = 5560 mg/kg  
Species : Rat

Dermal route: LD50 > 7940 mg/kg  
Species : Rabbit

Inhalation route: LC50 > 7.7 mg/l  
Species : Rat

**Safety data sheet**  
**according to 1907/2006/EC, Article 31**

**Trade name:** Carr's Orange Flux

PROPAN-2-OL (CAS: 67-63-0)

Oral route: LD50 = 4570 mg/kg  
Species : Rat

Dermal route: LD50 = 12800 mg/kg  
Species : Rabbit

Inhalation route: LC50 = 30 mg/m<sup>3</sup>  
Species : Rat

Respiratory or skin sensitisation:

PROPAN-2-OL (CAS: 67-63-0)

Buehler Test : Non-sensitiser.  
Species : Others

Germ cell mutagenicity:

PROPAN-2-OL (CAS: 67-63-0)  
No mutagenic effect.

Carcinogenicity:

PROPAN-2-OL (CAS: 67-63-0)  
Carcinogenicity Test : Negative.  
No carcinogenic effect.

#### 11.1.2. Mixture

##### Acute toxicity:

The massive ingestion of product may cause serious caustic lesions of the gastrointestinal tract. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, fatigue, nausea and vomiting.

##### Monograph(s) from the IARC (International Agency for Research on Cancer):

CAS 67-63-0 : IARC Group 3 : The agent is not classifiable as to its carcinogenicity to humans.

## SECTION 12: Ecological Information

### 12.1. Toxicity

Do not allow product to reach ground water, water source or sewage system.

#### 12.1.1. Substances

ADIPIC ACID (CAS: 124-04-9)

Fish toxicity: LC50 > 1000 mg/l  
Species : Brachydanio rerio  
Duration of exposure : 96 h

Crustacean toxicity: EC50 = 46 mg/l  
Species : Daphnia magna  
Duration of exposure : 48 h

PROPAN-2-OL (CAS: 67-63-0)

Fish toxicity: LC50 > 100 mg/l  
Species : Leuciscus idus melanotus  
Duration of exposure : 48 h

Crustacean toxicity: EC50 > 100 mg/l  
Species : Daphnia magna  
Duration of exposure : 48 h

Algae toxicity: ECr50 > 100 mg/l  
Species : Scenedesmus subspicatus  
Duration of exposure : 72 h

(Contd. on page 9)



**Safety data sheet**  
**according to 1907/2006/EC, Article 31**

**Trade name:** Carr's Orange Flux

**12.1.2. Mixtures**

No aquatic toxicity data available for the mixture.

**12.2. Persistence and degradability**

**12.2.1. Substances**

ETHYLAMMONIUM CHLORIDE (CAS: 557-66-4)

Biodegradability: no degradability data is available, the substance is considered as not degrading quickly.

ADIPIIC ACID (CAS: 124-04-9)

Biodegradability: Rapidly degradable.

PROPAN-2-OL (CAS: 67-63-0)

Biodegradability: no degradability data is available, the substance is considered as not degrading quickly.

**12.3. Bioaccumulative potential**

**12.3.1. Substances**

ETHYLAMMONIUM CHLORIDE (CAS: 557-66-4)

Octanol/water partition coefficient: log K<sub>ow</sub> = -3.33

ADIPIIC ACID (CAS: 124-04-9)

Octanol/water partition coefficient: log K<sub>ow</sub> = 0.093

• **12.4 Mobility in soil**

No data available.

• **12.5 Results of PBT and vPvB assessment**

No data available.

• **12.6 Other adverse effects**

No data available.

## SECTION 13: Disposal Considerations

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

**13.1. Waste treatment methods**

Do not pour into drains or waterways.

**Waste:** Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company. Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

**Soiled packaging:** Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

## SECTION 14: Transport Information

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2015 - IMDG 2014 - ICAO/IATA 2015).

• **14.1 UN-Number**

• **ADR, IMDG, IATA**

UN1993

• **14.2 UN proper shipping name**

• **ADR**

UN1993=FLAMMABLE LIQUID, N.O.S. (propan-2-ol)

• **IMDG**

UN1993=FLAMMABLE LIQUID, N.O.S. (propan-2-ol)

• **IATA**

UN1993=FLAMMABLE LIQUID, N.O.S. (propan-2-ol)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

**Trade name:** Carr's Orange Flux

• **14.3 Transport hazard class(es)**

• **ADR, IMDG, IATA**



• **Class** 3  
• **Label** 3

• **14.4 Packing group**

• **ADR, IMDG, IATA** II

• **14.5 Environmental hazards:**

• **Marine pollutant:** No hazards identified

• **14.6 Special precautions for user Warning:**

ADR/RID: Class 3, Code F1, Pack gr II, Label 3, Ident 33, LQ 1L, Provis 274 601 640D, EQ E2, Cat 2, Tunnel D/E

IMDG: Class 3, 2°label -, Pack gr II, LQ 1L, EMS F-E,S-E, Provis 274, EQ E2

IATA: Class 3, 2°label -, Pack gr II, Passenger 353, Passenger 5L, Cargo 364, Cargo 60L, Note A3, EQ E2  
Class 3, 2°label -, Pack gr II, Passenger Y341, Passenger 1L, Cargo -, Cargo -, Note A3, EQ E2

• **14.7 Transport in bulk according to Annex II of**

**Marpol and the IBC Code** No data available.

## SECTION 15: Regulatory Information

• **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Classification and labelling information included in section 2:**

The following regulations have been used:-

EU Regulation No. 1272/2008 amended by EU Regulation No. 487/2013.

EU Regulation No. 1272/2008 amended by EU Regulation No. 758/2013.

EU Regulation No. 1272/2008 amended by EU Regulation No. 944/2013.

EU Regulation No. 1272/2008 amended by EU Regulation No. 605/2014.

**Container information:** No data available.

**Particular provisions:** No data available.

**15.2. Chemical safety assessment** No data available.

## SECTION 16: Other Information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• **Relevant phrases.**

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

**Abbreviations:** DNEL: Derived No-Effect Level,

PNEC: Predicted No-Effect Concentration,

ADR: European agreement concerning the international carriage of dangerous goods by Road,

IMDG: International Maritime Dangerous Goods,

IATA: International Air Transport Association,

ICAO: International Civil Aviation Organisation,

RID: Regulations concerning the International carriage of Dangerous goods by rail,

GHS02: Flame, GHS07: Exclamation mark

• **Department issuing SDS:** Product safety department: LABORATORY

• **Contact:** Health & Safety Officer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text