

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

Printing date 07.05.2021

Version number 20

Revision: 07.05.2021

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.3 Details of the supplier of the safety data sheet****Trade name: NF372-TB Soldering Flux and Flux Pen****Relevant identified uses of the substance or mixture and uses advised against** Professional use**Manufacturer/Supplier:**

Kester LLC  
800 West Thorndale Avenue  
Itasca, IL 60143 USA  
Tel (630) 616-4000  
Tel International 00 1 630 616-4000

Kester GmbH  
Ganghofer Strasse 45  
D-82216 Gerlinden Germany  
Tel +49 (0) 8142 4785 0

Alpha Assembly Solutions (Shanghai)  
Trading Co., Ltd  
2 floor, 5 Buliding, No. 1151 Lianxi Road  
Pudong New Area Shanghai 201204  
P.R. China  
Tel: 86-21-63900600

Alpha Assembly Solutions (Shenzhen)  
Co., Ltd  
Tang Xia Yong Village, Songgang Town  
Baoan District, Shenzhen, 518105  
P.R. China  
Tel: 86 755 2705 1100

**Further information obtainable from:** EHS\_Kester@kester.com**1.4 Emergency telephone number:**

CHEMTREC 24-Hour Emergency Response Telephone Number: International +1 703 741-5970

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

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**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:**

isopropanol

**Hazard statements**

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

**Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof [electrical/ventilating/lighting] equipment.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Information concerning particular hazards for human and environment:**

Contains Rosin. Prolonged exposure to smoke, or fumes generated by heating this product may cause respiratory irritation.

Refer to Section 8 - Exposure Controls / Personal Protection for further information.

**2.3 Other hazards**

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.



**vPvB:** Not applicable.

**SECTION 3: Composition/information on ingredients**

**3.2 Chemical characterisation: Mixtures**

**Description:** Mixture

**Dangerous components:**

CAS: 67-63-0	isopropanol	70-90%
EINECS: 200-661-7	 Flam. Liq. 2, H225;  Eye Irrit. 2, H319; STOT SE 3, H336	
Index number: 603-117-00-0		

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	Organic solvent ⚠ Flam. Liq. 3, H226; ⚠ Asp. Tox. 1, H304	1-10%
	Proprietary rosin Aquatic Chronic 4, H413	1-10%
	Organic acid ⚠ Eye Irrit. 2, H319	1-<10%

**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:** Immediately remove any clothing soiled by the product.

**After inhalation:**

Supply fresh air or oxygen; call for doctor.

Supply fresh air; consult doctor in case of complaints.

**After skin contact:** Immediately rinse with water.

**After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

**After swallowing:** If symptoms persist consult doctor.

**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

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

No further relevant information available.

#### SECTION 5: Firefighting measures

##### 5.1 Extinguishing media

**Suitable extinguishing agents:**

 CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**For safety reasons unsuitable extinguishing agents:** Water with full jet

**5.2 Special hazards arising from the substance or mixture** No further relevant information available.

**5.3 Advice for firefighters**
**Protective equipment:** No special measures required.

#### SECTION 6: Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

**6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

**6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

**6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.

**Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.

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

**Requirements to be met by storerooms and receptacles:** Store in a cool location.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:**

Keep container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.

**7.3 Specific end use(s)** No further relevant information available.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters**

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

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

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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

**8.2 Exposure controls** Use only with adequate ventilation**Personal protective equipment:****General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.

**Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.  
Use suitable respiratory protective device when high concentrations are present.

**Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eye protection:**


Safety glasses

Goggles recommended during refilling

**Body protection:** Protective work clothing

**SECTION 9: Physical and chemical properties**
**9.1 Information on basic physical and chemical properties**
**General Information**
**Appearance:**

<b>Form:</b>	Liquid
<b>Colour:</b>	Light yellow
<b>Odour:</b>	Alcohol-like

<b>pH-value:</b>	Not available Not determined.
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**Change in condition**

<b>Melting point/freezing point:</b>	Undetermined.
<b>Initial boiling point and boiling range:</b>	82 °C

<b>Flash point:</b>	12 °C
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<b>Flammability (solid, gas):</b>	Not applicable.
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<b>Ignition temperature:</b>	210 °C
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<b>Decomposition temperature:</b>	Not determined.
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<b>Auto-ignition temperature:</b>	Product is not selfigniting.
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<b>Explosive properties:</b>	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
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**Explosion limits:**

<b>Lower:</b>	2 Vol %
<b>Upper:</b>	12 Vol %

<b>Vapour pressure at 20 °C:</b>	43 hPa
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<b>Density:</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with water:</b>	Not miscible or difficult to mix.
<b>Partition coefficient: n-octanol/water:</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Solvent content:</b>	
<b>VOC (EC)</b>	87.58 %
<b>Solids content:</b>	3.9 %
<b>9.2 Other information</b>	No further relevant information available.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity** No further relevant information available.

**10.2 Chemical stability**

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions** No dangerous reactions known.

**10.4 Conditions to avoid** No further relevant information available.

**10.5 Incompatible materials:** No further relevant information available.

**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

**Acute toxicity** Based on available data, the classification criteria are not met.

**LD/LC50 values relevant for classification:**

**67-63-0 isopropanol**

Oral	LD50	5,045 mg/kg (rat)
Dermal	LD50	12,800 mg/kg (rabbit)
Inhalative	LC50/4 h	30 mg/l (rat)

**Primary irritant effect:**

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/irritation**

Causes serious eye irritation.

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

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**Additional toxicological information:**

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT-single exposure**

May cause drowsiness or dizziness.

**STOT-repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

**SECTION 12: Ecological information**

**12.1 Toxicity**

**Aquatic toxicity:** No further relevant information available.

**12.2 Persistence and degradability** No further relevant information available.

**12.3 Bioaccumulative potential** No further relevant information available.

**12.4 Mobility in soil** No further relevant information available.

**Additional ecological information:**

**General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

**12.5 Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

**12.6 Other adverse effects** No further relevant information available.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**European waste catalogue**

HP3	Flammable
HP4	Irritant - skin irritation and eye damage
HP5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

**Recommendation:** Disposal must be made according to official regulations.

**SECTION 14: Transport information**

**14.1 UN-Number**  
**ADR, IMDG, IATA**

UN1219

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<b>14.2 UN proper shipping name</b>	
<b>ADR</b>	UN1219 ISOPROPANOL (ISOPROPYL ALCOHOL) mixture
<b>IMDG, IATA</b>	ISOPROPANOL (ISOPROPYL ALCOHOL) mixture
<b>14.3 Transport hazard class(es)</b>	
<b>ADR</b>	
	
<b>Class</b>	3 (F1) Flammable liquids.
<b>Label</b>	3
<b>IMDG, IATA</b>	
	
<b>Class</b>	3 Flammable liquids.
<b>Label</b>	3
<b>14.4 Packing group</b>	
<b>ADR, IMDG, IATA</b>	II
<b>14.5 Environmental hazards:</b>	
Not applicable.	
<b>14.6 Special precautions for user</b>	
Warning: Flammable liquids.	
<b>Hazard identification number (Kemler code):</b>	33
<b>EMS Number:</b>	F-E,S-D
<b>Stowage Category</b>	B
<b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	
Not applicable.	
<b>Transport/Additional information:</b>	
<b>Limited quantities (LQ)</b>	1L
<b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<b>Transport category</b>	2
<b>Tunnel restriction code</b>	D/E
<b>IMDG</b>	
<b>Limited quantities (LQ)</b>	1L
<b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

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**UN "Model Regulation":** UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL) MIXTURE, 3, II

**SECTION 15: Regulatory information**

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

**Directive 2012/18/EU**

**Named dangerous substances - ANNEX I** None of the ingredients is listed.

**Seveso category** P5c FLAMMABLE LIQUIDS

**Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t

**Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t

**REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

**DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

**REGULATION (EU) 2019/1148**

**Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

**Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

**National regulations:**

The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances.

**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**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.

The information contained herein is based on data considered accurate and is offered solely for information, consideration and investigation. Kester extends no warranties, makes no representations and assumes no responsibility as to the accuracy, completeness or suitability of this data for the purchaser's use. The data on this Safety Data Sheet should be used only by or under the direction of technically qualified personnel who are aware of the hazards involved and the necessity for reasonable care in handling. Hazard communication regulations require employees must be trained on how to use the SDS as a source for hazard information.

**Relevant phrases**

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

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H413 May cause long lasting harmful effects to aquatic life.

**Contact:** EHS\_Kester@Kester.com**Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Asp. Tox. 1: Aspiration hazard – Category 1

Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

EU