

According to 1907/2006/EC, Article 31

Version number 4

Reviewed on 02/17/2012

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

Trade name: 1544 Soldering Flux

Relevant identified uses of the substance or mixture and uses advised against Soldering Flux

Application of the substance / the preparation: Soldering flux

Details of the supplier of the safety data sheet

This Safety Data Sheet has been updated in accordance with the Global Harmonized System (GHS).

Manufacturer/Supplier:

Kester 800 West Throndale Ave. Itasca, IL 60143 Tel (630) 616-4000 Fax (630) 616-4044

Kester Components Pte Ltd 500 Chai Chee Lane Singapore 469024 Tel: 65-64491133

Information department: SDS Coordinator (630) 616-6844

Emergency telephone number:

CHEMTREC 24-Hour Emergency Response Telephone Number: (800) 424-9300

CHEMTREC 24-Hour Emergency Response (Outside US & Canada) Telephone Number: (703) 527-3887

### 2 Hazards identification

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.



GHS06 Skull and crossbones

Acute Tox. 1 H300 Fatal if swallowed.



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335+H336 May cause respiratory irritation. May cause drowsiness or dizziness.

#### Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation. Hazard pictograms





GHS02 GHS06

Signal word Danger

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Hazard-determining components of labelling:

Rosin

Hazard statements

H225 Highly flammable liquid and vapour.

H300 Fatal if swallowed.

H319 Causes serious eye irritation. H317 May cause an allergic skin reaction.

H335+H336 May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

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

P301+P310 IF SWALLOWED: Immediately call a PŎIŠON ČENTER or doctor/physician.

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

easy to do. Continue rinsing.

P405 Store locked up.

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

Classification system: NFPA ratings (scale 0 - 4)



Health = 1 Fire = 3 Reactivity = 0

#### HMIS-ratings (scale 0 - 4)



Health = \*1 Fire = 3 Reactivity = 0

#### Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable. vPvB: Not applicable.

### 3 Composition/information on ingredients

Chemical characterization: Mixtures -

Description: Mixture of the substances listed below with nonhazardous additions.

CAS No.	Description	% Range
CAS: 8050-09-7 EINECS: 232-47	Rosin 75-7 Acute Tox. 1, H300  \$\ightarrow\$ Skin Sens. 1, H317	25-50%
CAS: 78-92-2 EINECS: 201-15	sec-butanol 58-5 Flam. Liq. 3, H226 \$\ightarrow\$ Fly Fly Fly Frit. 2, H319; STOT SE 3, H335+H336	10-25%
CAS: 64-17-5	ethanol 78-6 <mark>� Flam. Liq. 2, H225</mark>	10-25%
CAS: 67-63-0 EINECS: 200-60	isopropanol 61-7 <mark>♦ Flam. Liq. 2, H225</mark> ♦ Eye Irrit. 2, H319; STOT SE 3, H336	≤ 2.5%
CAS: 67-56-1	methanol 59-6 Flam. Liq. 2, H225 Acute Tox. 2, H330 STOT SE 1, H370	≤2.5%
CAS: 506-59-2 EINECS: 208-04	dimethylammonium chloride 46-5  ↑ Acute Tox. 4, H302	≤2.5%

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**SVHC** 

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This product does not contain any Substance of Very High Concern (SVHC) on the European Chemicals Agency (ECHA) candidate list.

### 4 First aid measures

**Description of first aid measures** 

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

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

After swallowing:

Induce vomiting and call for medical help.

Seek immediate medical advice.

Information for doctor:

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

Indication of any immediate medical attention and special treatment needed No further relevant information available.

### 5 Firefighting measures

**Extinguishing media** 

Suitable extinguishing agents: CO2, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents: Water with full jet

Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO) Carbon dioxide (CO2) Aliphatic aldehydes

Advice for firefighters

**Protective equipment:** Wear self-contained respiratory protective device.

#### 6 Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

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

Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

Absorb with clay, dry sand, or other inert material. Do not use combustible materials such as sawdust. Place in a chemical waste container.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### 7 Handling and storage

#### Handling:

Precautions for safe handling

Store in cool, dry place in tightly closed receptacles.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

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#### Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

# 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: Store away from oxidizing agents.

Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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

### 8 Exposure controls/personal protection

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

#### **Control parameters**

Com	Components with limit values that require monitoring at the workplace:		
8050-09-7 Rosin			
TLV	SEN; L		
78-92	78-92-2 sec-butanol		
REL	450 mg/m³, 150 ppm Short-term value: 455 mg/m³, 150 ppm Long-term value: 305 mg/m³, 100 ppm		
	300 mg/m³, 100 ppm		
	7-5 ethanol		
REL	1900 mg/m³, 1000 ppm 1900 mg/m³, 1000 ppm Short-term value: 1880 mg/m³, 1000 ppm		
67-63	67-63-0 isopropanol		
PEL	980 mg/m³, 400 ppm		
67-50	67-56-1 methanol		
	260 mg/m³, 200 ppm Short-term value: 325 mg/m³, 250 ppm Long-term value: 260 mg/m³, 200 ppm Skin		
TLV	Short-term value: 328 mg/m³, 250 ppm Long-term value: 262 mg/m³, 200 ppm Skin; BEI		

#### Additional information:

PEL = Permissible Exposure Limit (OSHA)

TLV= Threshold Limit Value (ACGIH)

OSHA= Occupational Safety and Health Administration

ACGIH= American Conference of Governmental Industrial Hygienists

#### **Exposure controls**

#### Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

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 and skin.

Breathing equipment:

Exposure Controls: Use appropriate engineering control such as process enclosures, local exhaust ventilation to control airborne levels below recommended exposure limits.

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When ventilation is not sufficient to remove airborne levels from the breathing zone, a NIOSH safety approved respirator or self-contained breathing apparatus should be worn. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

Protection of hands:



Protective gloves

Material of gloves: Nitrile rubber, NBR Natural rubber, NR

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 with Sideshields

Goggles recommended during refilling.

### 9 Physical and chemical properties

### Information on basic physical and chemical properties General Information

Appearance:

Form: Liquid

Color: Amber colored Alcohol-like **pH-value:** Not determined.

Change in condition

Melting point/Melting range: Undetermined. Boiling point/Boiling range: 78°C (172 °F)

Flash point:  $\leq 21 \,^{\circ}\text{C} \, (\leq 70 \,^{\circ}\text{F})$ Ignition temperature: 390  $\,^{\circ}\text{C} \, (734 \,^{\circ}\text{F})$ Decomposition temperature: Not determined.

**Auto igniting:** Product is not selfigniting.

Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are

possible.

Explosion limits:

Lower: 1.7 Vol % Upper: 15.0 Vol %

Vapor pressure at 20°C (68 °F): 59 hPa (44 mm Hg)

**Density at 20°C (68 °F):** 0.93 g/cm³ (7.761 lbs/gal)

Solubility in / Miscibility with

Water: Partly miscible.

Solvent content:

Organic solvents: 49.7 % Solids content: 50.3 %

– US/



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### 10 Stability and reactivity

Reactivity

Chemical stability

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

Possibility of hazardous reactions No dangerous reactions known.

Conditions to avoid No further relevant information available.

Incompatible materials: Strong acids, strong oxidizers.

**Hazardous decomposition products:** 

Carbon monoxide and carbon dioxide

When heated to soldering temperatures, the solvents are evaporated and rosin may be thermally degraded to liberate aliphatic aldehydes and acids.

### 11 Toxicological information

#### Information on toxicological effects

Acute toxicity:

Primary irritant effect:

on the skin:

Irritant to skin and mucous membranes.

Possible local irritation by contact with flux or fumes.

on the eye:

Irritating effect.

Smoke during soldering can cause eye irritation.

through inhalation:

Fumes during use may irritate mucous membranes and respiratory system. High concentrations can cause headache, dizziness, narcosis, and nausea.

Flux fumes during soldering may cause irritation and damage of mucous membranes and respiratory system.

through ingestion: May cause gastrointestinal irritation.

Sensitization:

Sensitization possible through inhalation.

Sensitization possible through skin contact.

# 12 Ecological information

**Toxicity** 

Aquatic toxicity: No further relevant information available.

Additional ecological information:

General notes:

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

Results of PBT and vPvB assessment

**PBT:** Not applicable. **vPvB:** Not applicable.

### 13 Disposal considerations

#### Waste treatment methods

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

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UN1987

ALCOHOLS, N.O.S. (BUTANOLS, ETHANOL)

ALCOHOLS, N.O.S. (BUTANOLS, METHANOL)

1987 ALCOHOLS, N.O.S. (BUTANOLS, METHANOL)

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**Uncleaned packagings:** 

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

### 14 Transport information

UN-Number

DOT, ADR, IMDG, IATA

UN proper shipping name

DOT ADR

IMDG. IATA

Transport hazard class(es)

DOT, IMDG, IATA



Class 3 Flammable liquids. Label 3

ADR



Label 3

Packing group
DOT, ADR, IMDG, IATA

Environmental hazards:

Marine pollutant:

No

**Special precautions for user**EMS Number:

Not applicable.
F-E,S-E

Transport in bulk according to Annex II of MARPOL73/78

and the IBC Code Not applicable.

UN "Model Regulation": UN1987, ALCOHOLS, N.O.S. (BUTANOLS, METHANOL), 3,

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### 15 Regulatory information

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

USA The following information relates to product regulation specific to the USA.

SARA (Superfund Amendments and Reauthorization Act)

Section 355 (extremely hazardous substances):

None of the ingredient is listed.

Section 313 (Specific toxic chemical listings):

78-92-2 sec-butanol

67-56-1 methanol

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TSCA (Toxic Substances Control Act): Kester certifies that all components listed below for the subject finished product are on the TSCA Inventory of Chemical Substances and are not subject to any chemical specific regulation under TSCA Section 12(b) export notification requirements delineated at 40 CFR part 707, subpart D.

All ingredients are listed or exempt from listing.

California Proposition 65

Chemicals known to cause cancer:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity:

None of the ingredients is listed.

Carcinogenic categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

NTP (National Toxicology Program)

None of the ingredients is listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

CANADA: Not classified.

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms





GHS02 GHS06

#### Signal word Danger

Hazard-determining components of labelling:

Rosin

Hazard statements

H225 Highly flammable liquid and vapour.

H300 Fatal if swallowed.

H319 Causes serious eye irritation. H317 May cause an allergic skin reaction.

H335+H336 May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

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

P301+P310 IF SWALLOWED: Immediately call a PŎIŠON ČEŃTER or doctor/physician.

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

easy to do. Continue rinsing.

P405 Store locked up.

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

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

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### 16 Other information

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 responsibilty as to the accuracy, completeness or suitability of this data for any purchaser's use. The data on this Material Safety Data Sheet relates only to this product and does not relate to use with any other material or in any process. All chemical products 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 that employees must be trained on how to use a Material Safety Data Sheet as a source for hazard information.

### Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association ICAO: International Civil Aviation Organization

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA)

\* Data compared to the previous version altered.

USA -