SAFETY DATA SHEET (SDS)
according to 1907/2006/EC, Article 31

Printing Date: 05.07.2015 Version number 2 Revision: 05.07.2015

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

Trade name: 186 Soldering Flux
Application of the substance / the preparation: Soldering Flux
Relevant identified uses of the substance or mixture and uses advised against
Soldering Flux
Professional use of solder

1.3 Details of the supplier of the safety data sheet
This Safety Data Sheet has been updated in accordance with the Globally Harmonized System (GHS).
Manufacturer/Supplier:
Kester Inc.
800 West Thorndale Avenue
Itasca, IL 60143
Tel 00+1 + 630 616 4000

ITW Specialty Materials (Suzhou) Co., Ltd.
Heng Qiao Road
Wujiang Economic Development Zone
Suzhou, Jiangsu, China 215200
Tel +86 512 82060807

Further information obtainable from:
Product Compliance: EHS_Kester@kester.com
1.4 Emergency telephone number:
TRANSPORT EMERGENCY Phone: CHEMTREC (800) 424-9300 (Outside US & Canada): 00+1 +703 527 3887

*
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 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

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 statements
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

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Precautionary statements

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280	Wear protective gloves / eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
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.

Additional information:
For use in industrial installations only.
Restricted to professional users.

2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

*
SECTION 3: Composition/information on ingredients

Description: Mixture of substances listed below with nonhazardous additions.

Chemical components:		
CAS: 67-63-0 EINECS: 200-661-7	Isopropanol Flam. Liq. 2, H225 Eye Irrit. 2, H319; STOT SE 3, H336	55-70%
CAS: 65997-06-0	Rosin, modified Skin Sens. 1, H317	25-40%
CAS: 100-51-6 EINECS: 202-859-9	Benzyl alcohol Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	3-5%

Additional information:
For the wording of the listed risk phrases refer to section 16.
This solder product does not contain any Substance of Very High Concern (SVHC) on the European Chemicals Agency (ECHA) candidate list.

*
SECTION 4: First aid measures

4.1 Description of first aid measures
General information: Follow general first aid procedures.
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: Seek immediate medical advice.
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: CO2, powder or water spray. Fight larger fire with alcohol resistant foam.
For safety reasons unsuitable extinguishing agents: Water with full jet
5.2 Special hazards arising from the substance or mixture
In case of fire, the following can be released:
Carbon monoxide (CO)

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Nitrogen oxides (NOx)
Carbon dioxide (CO_2)
Aliphatic aldehydes
5.3 Advice for firefighters
Protective equipment: Wear self-contained respiratory protective device.

*
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources.
6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.
6.3 Methods and material for containment and cleaning up:
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Absorb with clay, diatomaceous earth, dry sand, or other inert material. Do not use combustible materials such as sawdust. Place in a chemical waste container. Flush residual with water.
6.4 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.

*
SECTION 7: Handling and storage

7.1 Precautions for safe handling
Store in cool, dry place in tightly closed receptacles.
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: Store away from oxidising agents.
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

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:	
67-63-0 Isopropanol	
PEL	Short-term value: 1225 mg/m³, 500 ppm Long-term value: 980 mg/m³, 400 ppm

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TWA	Short-term value: 1250 mg/m³, 500 ppm Long-term value: 980 mg/m³, 400 ppm
WEL	Short-term value: 1250 mg/m³, 500 ppm Long-term value: 999 mg/m³, 400 ppm

8.2 Exposure controls
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 and skin.
Respiratory protection:
When ventilation is not sufficient to remove fumes from the breathing zone, a safety approved respirator or self-contained breathing apparatus should be worn.
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 Side Shields Required

Face Shield with Safety Glasses when refilling.

*

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:
Form: Liquid
Colour: Amber coloured
Odour: Alcohol-like

pH-value: Not determined.

Change in condition
Melting point/Melting range: Undetermined.
Boiling point/Boiling range: 82 °C

Flash point: 18 °C

Ignition temperature: 425 °C

Self-igniting: Product is not selfigniting.

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

Explosion limits:
Lower: 2.0 Vol %
Upper: 12.0 Vol %

Vapour pressure at 20 °C: 43 hPa

Density at 20 °C: 0.88 g/cm³

Solubility in / Miscibility with water: Partly soluble.

Solvent content:
Organic solvents: VOC Content 562 g/L

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: Strong acids, strong oxidizers.
10.6 Hazardous decomposition products:
Carbon monoxide and carbon dioxide
When heated, the solvents are evaporated and rosin may be thermally degraded to liberate aliphatic aldehydes, acids, and terpenes.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity

LD/LC50 values relevant for classification:		
67-63-0 Isopropanol		
Oral	LD50	5045 mg/kg (rat)
Dermal	LD50	12800 mg/kg (rabbit)
Inhalative	LC50/4 h	30 mg/l (rat)
65997-06-0 Rosin, modified		
Oral	LD50	> 4000 mg/kg (Rat)
Dermal	LD50	>2500 mg/kg (rabbit)
100-51-6 Benzyl alcohol		
Oral	LD50	1230 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rabbit)

Primary irritant effect:
Skin corrosion/irritation Possible local irritation by contact with flux or fumes.
Serious eye damage/irritation
Smoke during soldering can cause eye irritation.
Causes serious eye irritation.
Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
Germ cell mutagenicity Based on available data, the classification criteria are not met.

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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 respiratory irritation. 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.
Additional ecological information:
General notes:
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.

*
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.
Disposal must be made according to official regulations.

European waste catalogue	
14 06 03	other solvents and solvent mixtures

Uncleaned packaging:
Recommendation: Disposal must be made according to official regulations.

*
SECTION 14: Transport information

14.1 UN-Number
IMDG, IATA UN1219
14.2 UN proper shipping name
ADR, IMDG, IATA UN1219, ISOPROPANOL (ISOPROPYL ALCOHOL) mixture, 3, II

14.3 Transport hazard class(es)

ADR, IMDG, IATA

Class 3 Flammable liquids.
Label 3
14.4 Packing group
ADR, IMDG, IATA II
14.5 Environmental hazards:
Marine pollutant: No
14.6 Special precautions for user Not applicable.
Danger code (Kemler): 33

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EMS Number: F-E,S-D
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

Transport/Additional information:

ADR
Limited quantities (LQ) 1L
Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
Transport category 2
Tunnel restriction code D/E

IMDG
Limited quantities (LQ) 1L
Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
UN "Model Regulation": UN1219, ISOPROPANOL (ISOPROPYL ALCOHOL) mixture, 3, II

*

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
All ingredients are listed on the following Government Inventories:
China: Inventory of Existing Chemical Substances in China (IECSC)
Korea: Korea Existing Chemicals List (ECL)
Europe: European Inventory of Existing Commercial Chemical Substances (EINECS)
Japan: Inventory of Existing and New Chemical Substances (ENCS)
Philippines: Philippine Inventory of Chemicals and Chemical Substances (PICCS)
USA: TSCA (Toxic Substances Control Act) TSCA Inventory of Chemical Substances

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 statements
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
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.
P280 Wear protective gloves / eye protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
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.

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

*
SECTION 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 Safety Data Sheet (SDS) 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 Safety Data Sheet (SDS) as a source for hazard information.

Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport 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)
NFPA: National Fire Protection Association (USA)
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, Hazard Category 2
Acute Tox. 4: Acute toxicity, Hazard Category 4
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
*** Data compared to the previous version altered.**