

SAFETY DATA SHEET (SDS)

according to 1907/2006/EC, Article 31

Printing Date: 16.05.2017

Version number 6

Revision: 16.05.2017

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

Trade name: 951 Soldering Flux and Flux Pen**Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

1.3 Details of the supplier of the safety data sheet**Manufacturer/Supplier:**

Kester Inc.
800 West Thorndale Avenue
Itasca, IL 60143
Tel 00+1 + 630 616 4000

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

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

Further information obtainable from:

Product Compliance: EHS_Kester@kester.com

1.4 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

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.



GHS06 skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 health hazard

STOT SE 2 H371 May cause damage to organs.



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 GHS06 GHS08 GHS07

Signal word Danger

Hazard-determining components of labelling:

 methanol
 Isopropanol

Hazard statements

 H225 Highly flammable liquid and vapour.
 H331 Toxic if inhaled.
 H319 Causes serious eye irritation.
 H371 May cause damage to organs.
 H336 May cause drowsiness or dizziness.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
 P102 Keep out of reach of children.
 P103 Read label before use.
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P240 Ground/bond container and receiving equipment.
 P233 Keep container tightly closed.
 P243 Take precautionary measures against static discharge.
 P264 Wash thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 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.
 P403+P235 Store in a well-ventilated place. Keep cool.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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: 64-17-5 EINECS: 200-578-6	ethanol	Flam. Liq. 2, H225	55-70%
CAS: 67-63-0 EINECS: 200-661-7	isopropanol	Flam. Liq. 2, H225 Eye Irrit. 2, H319; STOT SE 3, H336	10-25%

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Trade Secret	Aliphatic ketone	 Flam. Liq. 3, H226  STOT SE 3, H336	5-<10%
CAS: 67-56-1 EINECS: 200-659-6	methanol	 Flam. Liq. 2, H225  Acute Tox. 2, H330  STOT SE 1, H370	5-<10%
Trade Secret	Proprietary Carboxylic Acid	 Eye Irrit. 2, H319	1.0-3.0%

SVHC

This 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:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Follow general first aid procedures.

After inhalation:

In case of unconsciousness place patient stably in side position for transportation.

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

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 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 In case of fire, the following can be released:

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.

Ensure adequate ventilation

6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.

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

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 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

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:

CAS: 64-17-5 ethanol

WEL	Long-term value: 1920 mg/m ³ , 1000 ppm
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CAS: 67-63-0 Isopropanol

PEL	Short-term value: 1225 mg/m ³ , 500 ppm
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	Long-term value: 980 mg/m ³ , 400 ppm
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TWA	Short-term value: 1250 mg/m ³ , 500 ppm
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	Long-term value: 980 mg/m ³ , 400 ppm
--	--

WEL	Short-term value: 1250 mg/m ³ , 500 ppm
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	Long-term value: 999 mg/m ³ , 400 ppm
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Aliphatic ketone

WEL	Short-term value: 966 mg/m ³ , 200 ppm
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	Long-term value: 724 mg/m ³ , 150 ppm
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CAS: 67-56-1 methanol

WEL	Short-term value: 333 mg/m ³ , 250 ppm
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	Long-term value: 266 mg/m ³ , 200 ppm
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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.

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Not necessary if room is well-ventilated.
Use suitable respiratory protective device in case of insufficient ventilation.

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:	Liquid
Colour:	Colourless
Odour:	Alcohol-like

pH-value: Not determined.

Change in condition

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	78 °C

Flash point: 16 °C

Ignition temperature: 370 °C

Auto-ignition temperature: Product is not selfigniting.

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

Explosion limits:

Lower:	2.0 Vol %
Upper:	15.0 Vol %

Vapour pressure at 20 °C: 59 hPa

Density at 20 °C: 0.81 g/cm³

Solubility in / Miscibility with water: Not miscible or difficult to mix.

Solvent content:
Organic solvents: 94.8 %

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Water: 3.1 %
Solids content: 2.0 %

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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:** No dangerous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
Toxic if inhaled.

LD/LC50 values relevant for classification:

CAS: 64-17-5 ethanol

Oral	LD50	7060 mg/kg (rat)
Inhalative	LC50/4 h	20000 mg/l (rat)

CAS: 67-63-0 Isopropanol

Oral	LD50	5045 mg/kg (rat)
Dermal	LD50	12800 mg/kg (rabbit)
Inhalative	LC50/4 h	30 mg/l (rat)

CAS: 67-56-1 methanol

Oral	LD50	5628 mg/kg (rat)
Dermal	LD50	15800 mg/kg (rabbit)
Inhalative	LC50/4 h	0.5 mg/l (ATE)

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.

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 damage to organs.

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.

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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

Disposal must be made according to official regulations.

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

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

14.1 UN-Number

IMDG, IATA

UN1992

14.2 UN proper shipping name

ADR

1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (ETHANOL (ETHYL ALCOHOL), METHANOL)

IMDG

FLAMMABLE LIQUID, TOXIC, N.O.S. (ETHANOL (ETHYL ALCOHOL), METHANOL)

IATA

FLAMMABLE LIQUID, TOXIC, N.O.S. (ETHANOL, METHANOL)

14.3 Transport hazard class(es)

ADR



Class Label

3 Flammable liquids.
3+6.1

IMDG



Class Label

3 Flammable liquids.
3/6.1

IATA



Class Label

3 Flammable liquids.
3 (6.1)

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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): 336

EMS Number: F-E,S-D

Stowage Category B

Stowage Code SW2 Clear of living quarters.

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

Transport category 2

Tunnel restriction code D/E

IMDG

Limited quantities (LQ) 1L

Excepted quantities (EQ) Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

UN "Model Regulation": UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (ETHANOL (ETHYL ALCOHOL), METHANOL), 3 (6.1), 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 GHS06 GHS08 GHS07

Signal word Danger

Hazard-determining components of labelling:

methanol
Isopropanol

Hazard statements

H225 Highly flammable liquid and vapour.
H331 Toxic if inhaled.

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H319 Causes serious eye irritation.

H371 May cause damage to organs.

H336 May cause drowsiness or dizziness.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

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

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P240 Ground/bond container and receiving equipment.

P233 Keep container tightly closed.

P243 Take precautionary measures against static discharge.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

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

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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.

P403+P235 Store in a well-ventilated place. Keep cool.

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

Directive 2012/18/EU**Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t**Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t**REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3**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 responsibility 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.

Department issuing SDS: Product Compliance / EHS Department**Contact:** EHS_Kester@kester.com**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)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

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Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 2: Acute toxicity – Category 2
Acute Tox. 3: Acute toxicity – Category 3
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT SE 1: Specific target organ toxicity (single exposure) – Category 1
STOT SE 2: Specific target organ toxicity (single exposure) – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

*** Data compared to the previous version altered.**

GB