

1: PRODUCT AND COMPANY IDENTIFICATION

Trade name: SELECT-10™ Selective Solder Flux

Article number: C3-00-Select10

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Kester Inc.
800 West Thorndale Avenue
Itasca, IL 60143 USA
Tel (630) 616-4000

ITW Specialty Materials (Suzhou) Co., Ltd.
Heng Qiao Road
Wujiang Economic Development Zone
Suzhou, Jiangsu 215200 China
Tel +86 512 82060808

Kester GmbH
Ganghofer Strasse 45
D-8216 Gernlinden Germany
Tel +49 (0) 8142 4785

Information department: 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

2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS07

Eye Irrit. 2A 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.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

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

Hazard pictograms



GHS07

Signal word Warning

Hazard-determining components of labeling:

Isopropanol
Rosin

Hazard statements

Causes serious eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation. May cause drowsiness or dizziness.

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Precautionary statements

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

Wear protective gloves / eye protection.

Avoid breathing dust/fume/gas/mist/vapors/spray

Take precautionary measures against static discharge.

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

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

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

In case of fire: Use for extinction: CO₂, powder or water spray.

Take off contaminated clothing and wash it before reuse.

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

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

Hazard description:**WHMIS Symbols****Classification system:****NFPA ratings (scale 0 - 4)****HMIS-ratings (scale 0 - 4)****2.3 Other hazards****Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

3: COMPOSITION OF MIXTURE**Description:**

Mixture: consisting of the following components.

Mixture of the substances listed below with nonhazardous additions.

| CAS No. | Description | % Range |
|------------------------------------|---------------------|--|
| CAS: 67-63-0 EINECS: 200-661-7 | Isopropanol | ⚠ Flam. Liq. 2, H225 ⚠ Eye Irrit. 2A, H319; STOT SE 3, H336 70-85% |
| CAS: 122-99-6 EINECS: 204-589-7 | 2-Phenoxyethanol | ⚠ Acute Tox. 4, H302; Eye Irrit. 2A, H319 5-<10% |
| | Rosin | ⚠ Skin Sens. 1, H317 5-<10% |
| | Organic Acid | ⚠ Eye Irrit. 2A, H319 3.0-5.0% |
| CAS: 104-68-7 | Proprietary solvent | ⚠ Skin Irrit. 2, H315 ⚠ Eye Irrit. 2B, H320 1.0-3.0% |

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Additional information:

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

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.

5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing agents:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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: Wear self-contained respiratory protective device.

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 to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up: 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.

See Section 13 for disposal information.

7: HANDLING AND STORAGE

7.1 Precautions for safe handling Prevent formation of aerosols.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect from heat.

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 receptacle tightly sealed.

Protect from heat and direct sunlight.

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

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8: EXPOSURE CONTROLS / PERSONAL PROTECTION

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

8.1 Control parameters

Components with limit values that require monitoring at the workplace:

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

67-63-0 Isopropanol

| | |
|-----|--|
| PEL | Long-term value: 980 mg/m ³ , 400 ppm |
| REL | Short-term value: 1225 mg/m ³ , 500 ppm |
| | Long-term value: 980 mg/m ³ , 400 ppm |
| TLV | Short-term value: 984 mg/m ³ , 400 ppm |
| | Long-term value: 492 mg/m ³ , 200 ppm |
| | 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

8.2 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:

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



Face Shield with Safety Glasses when refilling.

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9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form: Liquid
Color: Light yellow
Odor: Alcohol-like

pH-value: Not determined.

Change in condition

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: 82 °C (180 °F)

Flash point: 12 °C (54 °F)

Ignition temperature: 399 °C (750 °F)

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower: 2.0 Vol %
Upper: 12.0 Vol %

Vapor pressure at 20 °C (68 °F): 43 hPa (32 mm Hg)

Density: Not determined.

Solubility in / Miscibility with

Water: Fully miscible.

Solvent content:

Organic solvents: 88.8 %

Solids content: 11.2 %

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.

11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

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

LD/LC50 values that are relevant for classification:

67-63-0 Isopropanol

| | | |
|------|------|------------------|
| Oral | LD50 | 5045 mg/kg (rat) |
|------|------|------------------|

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

Version number 10

Reviewed on 04/18/2016

Trade name: SELECT-10™ Selective Solder Flux

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

Primary irritant effect:

on the skin: Based on available data, the classification criteria are not met.

on the eye:

Causes serious eye irritation.

Sensitization:

May cause an allergic skin reaction.

Additional toxicological information:

Carcinogenic categories

IARC (International Agency for Research on Cancer)

| | | |
|---------|-------------|---|
| 67-63-0 | Isopropanol | 3 |
|---------|-------------|---|

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

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.

13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Recommendation:

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

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14: TRANSPORT INFORMATION

14.1 UN-Number

DOT, ADR, IMDG, IATA UN1219

14.2 UN proper shipping name

DOT Isopropanol mixture
ADR 1219 Isopropanol mixture
IMDG, IATA ISOPROPANOL (ISOPROPYL ALCOHOL) mixture

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14.3 Transport hazard class(es)

DOT



Class 3 Flammable liquids

ADR, IMDG, IATA



Class 3 Flammable liquids

14.4 Packing group

DOT, IMDG, IATA II

14.6 Special precautions for user Not applicable.

EMS Number: F-E,S-D

Stowage Category B

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

Transport/Additional information:

DOT

Quantity limitations On passenger aircraft/rail: 5 L
On cargo aircraft only: 60 L

ADR

Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

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 1219 ISOPROPANOL MIXTURE, 3, II

15: REGULATORY INFORMATION

15.1 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):

| | |
|----------|---------------------|
| 67-63-0 | Isopropanol |
| 122-99-6 | 2-Phenoxyethanol |
| 104-68-7 | Proprietary solvent |

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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.

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

None of the ingredients is listed.

CANADA:

Workplace Hazardous Materials Identification (WHMIS):

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR) and the Safety Data Sheet (SDS) contains all of the information required by the CPR.

Labelling according to Regulation (EC) No 1272/2008

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

Hazard pictograms



GHS07

Signal word Warning

Hazard-determining components of labeling:

Isopropanol

Rosin

Hazard statements

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statements

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Wear protective gloves / eye protection.

Avoid breathing dust/fume/gas/mist/vapors/spray

Take precautionary measures against static discharge.

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

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

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

In case of fire: Use for extinction: CO₂, powder or water spray.

Take off contaminated clothing and wash it before reuse.

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

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

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

US

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16: OTHER INFORMATION

Department issuing Safety Data Sheet (SDS): Product Compliance / EHS Department

Contact: EHS_Kester@kester.com

Date of preparation / last revision 04/19/2016 / 9

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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

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)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B

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.**