1 PRODUCT AND COMPANY IDENTIFICATION

Trade name: 5252 Cleaner

Article number: C7-00-5252

Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.

Application of the substance / the preparation: Soldering flux

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
Tel International 00 1 630 616-4000

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

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

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

GHS02 Flame

Flam. Liq. 2  H25  Highly flammable liquid and vapor.

GHS07

Eye Irrit. 2A  H319  Causes serious eye irritation.
STOT SE 3  H336  May cause drowsiness or dizziness.

Acute Tox. 5  H333  May be harmful if inhaled.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008
The product is classified and labeled according to the CLP regulation.

(Contd. on page 2)
Hazard pictograms

GHS02  GHS07

Signal word Danger

Hazard-determining components of labeling:
Isopropanol
acetone
Terpene Hydrocarbons

Hazard statements
H225 Highly flammable liquid and vapor.
H333 May be harmful if inhaled.
H319 Causes serious eye irritation.
H336 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.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P280 Wear protective gloves / eye protection / face protection.
P240 Ground/bond container and receiving equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
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.
P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
P304+P312 IF INHALED: Call a POISON CENTER/doctor if you feel unwell.
P337+P313 If eye irritation persists: Get medical advice/attention.
P405 Store locked up.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard description:
WHMIS Symbols

Classification system:
NFPA ratings (scale 0 - 4)

Health = 1
Fire = 3
Reactivity = 0
3 COMPOSITION OF MIXTURE

Description:
Mixture: consisting of the following components.
Solvent mixture
Mixture of the substances listed below with nonhazardous additions.

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Description</th>
<th>% Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 67-63-0</td>
<td>Isopropanol</td>
<td>70-85%</td>
</tr>
<tr>
<td>EINECS: 200-661-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 67-64-1</td>
<td>Acetone</td>
<td>10-25%</td>
</tr>
<tr>
<td>EINECS: 200-662-2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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: Induce vomiting, if person is conscious. Seek medical help.
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: No special measures required.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

(Contd. on page 4)
Trade name: 5252 Cleaner

(Contd. of page 3)

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

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.

Protective Action Criteria for Chemicals

PAC-1:
- CAS: 67-63-0 Isopropanol 400 ppm
- CAS: 67-64-1 Acetone 200 ppm
- Terpene Hydrocarbons 15 ppm

PAC-2:
- CAS: 67-63-0 Isopropanol 2000* ppm
- CAS: 67-64-1 Acetone 3200* ppm
- Terpene Hydrocarbons 67 ppm

PAC-3:
- CAS: 67-63-0 Isopropanol 12000** ppm
- CAS: 67-64-1 Acetone 5700* ppm
- Terpene Hydrocarbons 170 ppm

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 protection against explosions and fires:
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 oxidizing agents.
Further information about storage conditions:
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.

7.3 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.
8.1 Control parameters

Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>CAS: 67-63-0 Isopropanol</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL</td>
<td>Long-term value: 980 mg/m³, 400 ppm</td>
</tr>
<tr>
<td>REL</td>
<td>Long-term value: 1225 mg/m³, 500 ppm</td>
</tr>
<tr>
<td>TLV</td>
<td>Long-term value: 984 mg/m³, 400 ppm</td>
</tr>
<tr>
<td></td>
<td>Long-term value: 492 mg/m³, 200 ppm</td>
</tr>
<tr>
<td></td>
<td>BEI</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 67-64-1 acetone</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL</td>
<td>Long-term value: 2400 mg/m³, 1000 ppm</td>
</tr>
<tr>
<td>REL</td>
<td>Long-term value: 590 mg/m³, 250 ppm</td>
</tr>
<tr>
<td>TLV</td>
<td>Short-term value: 1187 mg/m³, 500 ppm</td>
</tr>
<tr>
<td></td>
<td>Long-term value: 594 mg/m³, 250 ppm</td>
</tr>
<tr>
<td></td>
<td>BEI</td>
</tr>
</tbody>
</table>

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:
When ventilation is not sufficient to remove fumes from the breathing zone, a safety approved respirator or self-contained breathing apparatus should be worn.
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

(Contd. of page 4)
9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
General Information
Appearance: Liquid
Color: Colorless
Odor: Mild
pH-value: Not determined.
Change in condition
Melting point/Melting range: 82 °C (180 °F)
Boiling point/Boiling range: 82 °C (180 °F)
Flash point: < 23 °C (< 73 °F)
Ignition temperature: 255 °C (491 °F)
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: 2.0 Vol %
Upper: 13.0 Vol %
Vapor pressure at 20 °C (68 °F): 233 hPa (175 mm Hg)
Density at 20 °C (68 °F): 0.788 g/cm³
Solubility in / Miscibility with Water: Fully miscible.
Solvent content:
Organic solvents: 99.3 %

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.

11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity:
May be harmful if inhaled.
Trade name: 5252 Cleaner

LD/LC50 values that are relevant for classification:

<table>
<thead>
<tr>
<th>CAS: 67-63-0 Isopropanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>LD50</td>
</tr>
<tr>
<td>Dermal</td>
</tr>
<tr>
<td>Inhalative</td>
</tr>
<tr>
<td>LC50/4 h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 67-64-1 acetone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>LD50</td>
</tr>
<tr>
<td>Dermal</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Terpene Hydrocarbons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>LD50</td>
</tr>
</tbody>
</table>

**Primary irritant effect:**
- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:** Causes serious eye irritation.
- **through inhalation:** Vapors during use may irritate mucous membranes and respiratory system. High concentrations can cause headache, dizziness, and nausea.
- **through ingestion:** May cause gastrointestinal irritation.

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

**Additional toxicological information:**

**Carcinogenic categories**

<table>
<thead>
<tr>
<th>IARC (International Agency for Research on Cancer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 67-63-0 Isopropanol</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>Terpene Hydrocarbons</td>
</tr>
<tr>
<td>3</td>
</tr>
</tbody>
</table>

**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.
- **Ecotoxicological effects:**
  - **Remark:** Toxic for fish
- **Additional ecological information:**
  - **General notes:**
  - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
  - Also poisonous for fish and plankton in water bodies.
  - Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.
  - **vPvB:** Not applicable.

---

**13 DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**
- **Recommendation:**
  - Disposal must be made according to official regulations.
14 TRANSPORT INFORMATION

14.1 UN-Number
DOT, ADR, IMDG, IATA
UN1993

14.2 UN proper shipping name
DOT
Flammable liquids, n.o.s. (Isopropanol, Acetone)
ADR
1993 Flammable liquids, n.o.s. (Isopropanol, Acetone)
IMDG
Not regulated
IATA
FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL (ISOPROPYL ALCOHOL), ACETONE), MARINE POLLUTANT
Not regulated
FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL (ISOPROPYL ALCOHOL), ACETONE)

14.3 Transport hazard class(es)

DOT

\[ \text{Class} \quad 3 \quad \text{Flammable liquids} \\
\text{Label} \quad 3 \]

ADR, IATA

\[ \text{Class} \quad 3 \quad \text{Flammable liquids} \\
\text{Label} \quad 3 \]

IMDG

\[ \text{Class} \quad 3 \quad \text{Flammable liquids} \\
\text{Label} \quad 3 \]

14.4 Packing group

DOT, IMDG, IATA
II

Marine pollutant:
Yes
Symbol (fish and tree)

14.6 Special precautions for user

Danger code (Kemler):
Not applicable.
33
EMS Number:
F-E-S-E
Stowage Category
B
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 
Not applicable.

Transport/Additional information:

<table>
<thead>
<tr>
<th>DOT</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity limitations</td>
<td>On passenger aircraft/rail: 5 L</td>
<td>On cargo aircraft only: 60 L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ADR</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Excepted quantities (EQ)</td>
<td>Code: E2</td>
<td>Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum net quantity per outer packaging: 500 ml</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IMDG</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited quantities (LQ)</td>
<td>1L</td>
<td></td>
</tr>
<tr>
<td>Excepted quantities (EQ)</td>
<td>Maximum net quantity per inner packaging: 30 ml</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maximum net quantity per outer packaging: 500 ml</td>
<td></td>
</tr>
</tbody>
</table>

UN "Model Regulation":
UN 1993 FLAMMABLE LIQUIDS, N.O.S. (ISOPROPA NOL, ACETONE), 3, II

---

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 (PICGS)
- USA: TSCA ( Toxic Substances Control Act) TSCA Inventory of Chemical Substances

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

SARA (Superfund Amendments and Reauthorization Act)

<table>
<thead>
<tr>
<th>Section 355 (extremely hazardous substances):</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredient is listed.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 313 (Specific toxic chemical listings):</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 67-63-0</td>
<td>Isopropanol</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>EPA (Environmental Protection Agency)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 67-64-1</td>
<td>Acetone</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NIOSH-Ca (National Institute for Occupational Safety and Health)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients is listed.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CANADA:
Not classified.
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**

- GHS02
- GHS07

**Signal word** Danger

**Hazard-determining components of labeling:**
Isopropanol
acetone
Terpene Hydrocarbons

**Hazard statements**

- H225 Highly flammable liquid and vapor.
- H333 May be harmful if inhaled.
- H319 Causes serious eye irritation.
- H336 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.
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray
- P280 Wear protective gloves / eye protection / face protection.
- P240 Ground/bond container and receiving equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P264 Wash thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- 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.
- P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
- P304+P312 IF INHALED: Call a POISON CENTER/doctor if you feel unwell.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P405 Store locked up.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 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.
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 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.

Department issuing Safety Data Sheet (SDS): Product Compliance / EHS Department
Contact: EHS_Kester@kester.com
Date of preparation / last revision 02/06/2017 / 5

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
- 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 – Category 2
- Acute Tox. 5: Acute toxicity – Category 5
- Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

* Data compared to the previous version altered.