

## 1: PRODUCT AND COMPANY IDENTIFICATION

**Trade name:** 109 Thinner

**Application of the substance / the preparation:** Thinner, Diluent

### 1.3 Details of the supplier of the safety data sheet

**Manufacturer/Supplier:**

Kester Inc.  
800 West Thorndale Avenue  
Itasca, IL 60143  
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

**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 H225 Highly flammable liquid and vapor.



GHS07

Eye Irrit. 2A 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 labeled according to the CLP regulation.

**Hazard pictograms**



GHS02 GHS07

**Signal word** Danger

**Hazard-determining components of labeling:**

Isopropanol  
sec-butanol

**Hazard statements**

Highly flammable liquid and vapor.  
Causes serious eye irritation.  
May cause respiratory irritation. May cause drowsiness or dizziness.

Trade name: 109 Thinner

(Contd. of page 1)

**Precautionary statements**

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

Wear protective gloves / eye protection.

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.

Collect spillage. Absorb liquid components with liquid-binding material.

In case of fire: Use for extinction: CO<sub>2</sub>, sand, extinguishing powder.

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**

B2 - Flammable liquid

D2A - Very toxic material causing other toxic effects

**Classification system:****NFPA ratings (scale 0 - 4)**

Health = 1  
Fire = 3  
Reactivity = 0

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

HEALTH 1 Health = 1  
FIRE 3 Fire = 3  
REACTIVITY 0 Reactivity = 0

**2.3 Other hazards****Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

**3: COMPOSITION OF MIXTURE****Description:** Mixture of the substances listed below with nonhazardous additions.

| CAS No.                           | Description | % Range  |         |
|-----------------------------------|-------------|--|---------|
| CAS: 67-63-0<br>EINECS: 200-661-7 | Isopropanol |  Flam. Liq. 2, H225<br>Eye Irrit. 2A, H319; STOT SE 3, H336      | 85-100% |
| CAS: 78-92-2<br>EINECS: 201-158-5 | sec-butanol |  Flam. Liq. 3, H226<br>Eye Irrit. 2A, H319; STOT SE 3, H335-H336 | 5-10%   |

**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.

(Contd. on page 3)

Trade name: 109 Thinner

(Contd. of page 2)

**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:**

CO<sub>2</sub>, extinguishing 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:

Carbon monoxide (CO)

Nitrogen oxides (NO<sub>x</sub>)

Carbon dioxide (CO<sub>2</sub>)

### 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

Keep away from ignition sources

### 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:

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.

### 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

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.

(Contd. on page 4)

**Trade name: 109 Thinner**

(Contd. of page 3)

**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:**

**67-63-0 Isopropanol**

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

**78-92-2 sec-butanol**

|     |   |
|-----|---|
| PEL | Long-term value: 450 mg/m <sup>3</sup> , 150 ppm  |
| REL | Short-term value: 455 mg/m <sup>3</sup> , 150 ppm<br>Long-term value: 305 mg/m <sup>3</sup> , 100 ppm |
| TLV | Long-term value: 300 mg/m <sup>3</sup> , 100 ppm  |

**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.

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.

(Contd. on page 5)

Trade name: 109 Thinner

**Eye protection:**  
Safety glasses

(Contd. of page 4)



Face Shield with Safety Glasses when refilling.

## 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

#### General Information

#### Appearance:

**Form:** Liquid  
**Color:** Colorless  
**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:** 18 °C (64 °F)

**Ignition temperature:** 390 °C (734 °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:** 12.0 Vol %

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

**Density at 20 °C (68 °F):** 0.79 g/cm<sup>3</sup> (6.593 lbs/gal)

#### Solubility in / Miscibility with

**Water:** Soluble.

#### Solvent content:

**Organic solvents:** VOC Content 785 g/L

## 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.

(Contd. on page 6)

Trade name: 109 Thinner

(Contd. of page 5)

**11: TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

**Acute toxicity:**

**LD/LC50 values that are 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)        |

**78-92-2 sec-butanol**

|      |      |                  |
|------|------|------------------|
| Oral | LD50 | 6480 mg/kg (rat) |
|------|------|------------------|

**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**

**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.

Trade name: 109 Thinner

(Contd. of page 6)

**14: TRANSPORT INFORMATION**

14.1 UN-Number  
DOT, ADR, IMDG, IATA UN1987  
14.2 UN proper shipping name  
DOT, ADR, IMDG, IATA UN 1987 ALCOHOLS, N.O.S. (ISOPROPANOL, BUTANOL), 3, II, (D/E)  
14.3 Transport hazard class(es)

DOT



Class 3 Flammable liquids  
Label 3

ADR, IMDG, IATA



Class 3 Flammable liquids  
Label 3

14.4 Packing group DOT, IMDG, IATA II  
Marine pollutant: No  
14.6 Special precautions for user Not applicable.  
Danger code (Kemler): 33  
EMS Number: F-E,S-D

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) Code: E2  
Maximum net quantity per inner packaging: 30 ml

UN "Model Regulation": UN 1987 ALCOHOLS, N.O.S. (ISOPROPANOL, BUTANOL), 3, II, (D/E)

**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.

(Contd. on page 8)

Trade name: 109 Thinner

(Contd. of page 7)

**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

**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**

GHS02 GHS07

**Signal word** Danger**Hazard-determining components of labeling:**

Isopropanol

sec-butanol

**Hazard statements**

Highly flammable liquid and vapor.

Causes serious eye irritation.

May cause respiratory irritation. May cause drowsiness or dizziness.

**Precautionary statements**

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

Wear protective gloves / eye protection.

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.

Collect spillage. Absorb liquid components with liquid-binding material.

In case of fire: Use for extinction: CO<sub>2</sub>, sand, extinguishing powder.

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

(Contd. on page 9)



**Trade name: 109 Thinner**

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.

(Contd. of page 8)

## 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 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** 09/03/2015 / 3

### 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

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

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

Flam. Liq. 3: Flammable liquids, Hazard Category 3

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

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

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