

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/02/2009

Reviewed on 02/02/2009

1 Identification of substance**Product details****Trade name: 186***Application of the substance / the preparation: Soldering flux***Manufacturer/Supplier:**

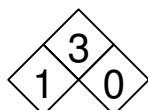
Kester
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Information department: -**Emergency information:**

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**WHMIS Hazard Symbols****Information pertaining to particular dangers for man and environment:***The product has to be labelled due to the calculation procedure of international guidelines.**Has a narcotizing effect.**Highly flammable.**Irritating to eyes.**May cause sensitisation by inhalation and skin contact.**Vapours may cause drowsiness and dizziness.***NFPA ratings (scale 0 - 4)**

Health = 1

Fire = 3

Reactivity = 0

HMIS-ratings (scale 0 - 4)

HEALTH	*1
FIRE	3
REACTIVITY	0

Health = *1

Fire = 3

Reactivity = 0

GHS label elements**Danger***2.6/2 - Highly flammable liquid and vapour.*

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**Danger***3.4/1 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.**3.3/2A - Causes serious eye irritation.**3.4/1 - May cause an allergic skin reaction.***Warning***3.8/3 - May cause drowsiness or dizziness.***Prevention:***Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**Keep container tightly closed.**Ground/bond container and receiving equipment.**Use explosion-proof electrical/ventilating/lighting/ equipment.**Use only non-sparking tools.**Take precautionary measures against static discharge.**Avoid breathing dust/fume/gas/mist/vapours/spray.**Wash thoroughly after handling.**Use only outdoors or in a well-ventilated area.**Contaminated work clothing should not be allowed out of the workplace.**Wear protective gloves/protective clothing/eye protection/face protection.**In case of inadequate ventilation wear respiratory protection.***Response:***IF ON SKIN: Wash with plenty of soap and water.**IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.**IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**Call a POISON CENTER or doctor/physician if you feel unwell.**Specific treatment (see label).**If skin irritation or rash occurs: Get medical advice/attention.**If eye irritation persists: Get medical advice/attention.**If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.**Wash contaminated clothing before reuse.**In case of fire: Use for extinction: CO₂, powder or water spray.***Storage:***Store in a well-ventilated place. Keep container tightly closed.**Store in a well-ventilated place. Keep cool.**Store locked up.***Disposal:***Dispose of contents/container in accordance with local/regional/national/international regulations.***3 Composition/Data on components****Chemical characterization***Description: Mixture of the substances listed below with nonhazardous additions.*

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Dangerous components:

67-63-0	propan-2-ol	Danger:  2.6/2 Warning:  3.3/2A, 3.8/3	50-100%
65997-06-0	Modified Rosin	Danger:  3.4.R/1, 3.4.S/1	25-50%
100-51-6	Benzyl alcohol	Danger:  3.1.O/3, 3.1.I/4, 3.4.S/1	2.5-10%

4 First aid measures**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.**5 Fire fighting measures****Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.**For safety reasons unsuitable extinguishing agents:** Water with full jet**Special hazards caused by the material, its products of combustion or resulting gases:***In case of fire, the following can be released:*

Carbon monoxide (CO)

Carbon dioxide (CO₂)

Aliphatic aldehydes

Protective equipment: Wear self-contained respiratory protective device.**6 Accidental release measures****Person-related safety precautions:** Ensure adequate ventilation**Measures for environmental protection:** Do not allow product to reach sewage system or any water course.**Measures for cleaning/collecting:***Absorb with clay, dry sand, or other inert material. Do not use combustible materials such as sawdust. Place in a chemical waste container.***7 Handling and storage****Handling:****Information for safe handling:** Store in cool, dry place in tightly closed receptacles.**Information about protection against explosions and fires:***Keep ignition sources away - Do not smoke.**Protect against electrostatic charges.***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.

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Further information about storage conditions: *Keep receptacle tightly sealed.***8 Exposure controls and personal protection****Additional information about design of technical systems:** *No further data; see item 7.***Components with limit values that require monitoring at the workplace:****67-63-0 propan-2-ol**

PEL	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: (1230) mg/m ³ , (500) ppm Long-term value: (983) mg/m ³ , (400) ppm NIC-200; 491; 400; 984; A 4

Additional information:

PEL = Permissible Exposure Limit (OSHA)

REL = Recommended Exposure Limit (NIOSH)

TLV = Threshold Limit Value (ACGIH)

OSHA = Occupational Safety and Health Administration

ACGIH = American Conference of Governmental Industrial Hygienists

NIOSH = National Institute for Occupational Safety and Health

Personal protective equipment:**General protective and hygienic measures:***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.***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

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*Tightly sealed goggles***9 Physical and chemical properties****General Information**

Form: *Liquid*
Color: *Amber colored*
Odor: *Alcohol-like*

Change in condition

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

Flash point: *18 °C (64 °F)*

Ignition temperature: *399 °C (750 °F)*

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): *33 hPa (25 mm Hg)*

Density at 20 °C (68 °F): *0.879 g/cm³*

Solubility in / Miscibility with

Water: *Partly soluble.*

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: *No decomposition if used according to specifications.*

Materials to be avoided: *Strong acids, strong oxidizers.*

Dangerous reactions *No dangerous reactions known.*

Dangerous products of decomposition:

When heated to soldering temperatures, the solvents are evaporated and rosin may be thermally degraded to liberate aliphatic aldehydes and acids.

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11 Toxicological information**Acute toxicity:****LD/LC50 values that are relevant for classification:****67-63-0 propan-2-ol**

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

65997-06-0 Modified Rosin

Oral	LD50	> 4.000 mg/kg (Rat)
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100-51-6 Benzyl alcohol

Oral	LD50	1230 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rabbit)

Primary irritant effect:

on the skin: Possible local irritation by contact with flux or fumes.

on the eye: Smoke during soldering can cause eye irritation.

through inhalation:

Flux fumes during soldering may cause irritation and damage of mucous membranes and respiratory system.

through ingestion: May cause gastrointestinal irritation.

Sensitization:

Sensitization possible through inhalation.

Sensitization possible through skin contact.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

12 Ecological information

General notes: Do not allow product to reach ground water, water course or sewage system.

13 Disposal considerations**Product:****Recommendation:**

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

Disposal must be made according to official regulations.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

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14 Transport information**DOT regulations:**

Hazard class: 3
Identification number: UN1219
Packing group: II
Proper shipping name (technical name): ISOPROPANOL, mixture
Label: 3

Land transport ADR/RID (cross-border):

ADR/RID class: 3 Flammable liquids
Danger code (Kemler): 33
UN-Number: 1219
Packaging group: II
Description of goods: 1219 ISOPROPANOL, mixture

Maritime transport IMDG:

IMDG Class: 3
UN Number: 1219
Label: 3
Packaging group: II
EMS Number: F-E,S-D
Marine pollutant: No
Proper shipping name: ISOPROPANOL, mixture

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 3
UN/ID Number: 1219
Label: 3
Packaging group: II
Proper shipping name: ISOPROPANOL, mixture
UN "Model Regulation": UN1219, ISOPROPANOL (ISOPROPYL ALCOHOL), mixture, 3, II

15 Regulations

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 | propan-2-ol

TSCA (Toxic Substances Control Act):

All ingredients are listed or exempt from listing.

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California Proposition 65*Chemicals known to cause cancer:**None of the ingredients is listed.**Chemicals known to cause reproductive toxicity:***WARNING:** *This product contains a chemical(s) known to the State of California to cause birth defects and/or other reproductive harm.***Carcinogenicity categories***EPA (Environmental Protection Agency)**None of the ingredients is listed.**IARC (International Agency for Research on Cancer)*67-63-0 | *propan-2-ol*

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*NTP (National Toxicology Program)**None of the ingredients is listed.**NIOSH-Ca (National Institute for Occupational Safety and Health)**None of the ingredients is listed.**OSHA-Ca (Occupational Safety & Health Administration)**None of the ingredients is listed.**CANADA: The following information relates to product regulation specific to 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 MSDS contains all of the information required by the CPR.**WHMIS Classification:**B2**D2B***EUROPEAN UNION***The following information relates to product regulation specific to the directives of the European Union.***Risk phrases:***Highly flammable.**Irritating to eyes.**May cause sensitisation by inhalation and skin contact.**Vapours may cause drowsiness and dizziness.***Safety phrases:***Keep out of the reach of children.**Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).**Avoid contact with skin and eyes.**Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.**Wear suitable gloves.**In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).*

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*In case of accident by inhalation: remove casualty to fresh air and keep at rest.***16 Other information**

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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)

RID: Reglement internationale concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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

ICAO: International Civil Aviation Organization

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

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

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