Safety Data Sheet
acc. to OSHA HCS 29CFR1910.1200

Printing Date 08/30/2017 Version number 8 Reviewed on 08/24/2017

*
1 Identification

Trade name: 1800 Soldering Flux

Article number: C5-00-1800
Relevant identified uses of the substance or mixture and uses advised against
Soldering Flux
Professional use of Solder

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
Wujiang 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
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

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2 Hazard(s) identification

Classification of the substance or mixture


Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.

Aquatic Acute 3 H402 Harmful to aquatic life.

Label elements
GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

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Trade name: 1800 Soldering Flux

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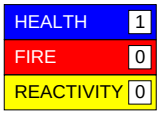
Hazard pictograms

GHS07 GHS08

Signal word Danger
Hazard statements
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H402 Harmful to aquatic life.
Precautionary statements
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
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.
P402+P404 Store in a dry place. Store in a closed container.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
Classification system:
NFPA ratings (scale 0 - 4)

Health = 1
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 1
Fire = 0
Reactivity = 0

Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

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3 Composition/information on ingredients

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

CAS No.	Description	% Range
CAS: 34590-94-8	(2-methoxymethylethoxy)propanol Resp. Sens. 1B, H334 Flam. Liq. 4, H227	10-25%

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Trade Secret	Polyethylene glycol	5-10%
CAS: 111-76-2	2-butoxyethanol Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319 Flam. Liq. 4, H227	5-10%
Trade Secret	Organic Acids Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	5-10%
CAS: 1336-21-6	ammonia Skin Corr. 1B, H314; Eye Dam. 1, H318 Aquatic Acute 1, H400	≥1-≤2.5%

4 First-aid measures

Description of first aid measures
General information: Follow general first aid procedures.
After inhalation:
In case of unconsciousness place patient stably in side position for transportation.
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.
After swallowing: Seek immediate medical advice.
Information for doctor:
Most important symptoms and effects, both acute and delayed No further relevant information available.
Indication of any immediate medical attention and special treatment needed No further relevant information available.

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5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents:
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Special hazards arising from the substance or mixture In case of fire, the following can be released:
Advice for firefighters
Protective equipment: No special measures required.

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6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Ensure adequate ventilation
Environmental precautions: Do not allow to enter sewers/ surface or ground water.
Methods and material for containment and cleaning up: Dispose of the collected material according to regulations.
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: 34590-94-8	(2-methoxymethylethoxy)propanol	150 ppm
	Polyethylene glycol	30 mg/m3
CAS: 111-76-2	2-butoxyethanol	60 ppm
CAS: 1336-21-6	ammonia	61 ppm

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PAC-2:		
CAS: 34590-94-8	(2-methoxymethylethoxy)propanol	1700* ppm
	Polyethylene glycol	1,300 mg/m3
CAS: 111-76-2	2-butoxyethanol	120 ppm
CAS: 1336-21-6	ammonia	330 ppm
PAC-3:		
CAS: 34590-94-8	(2-methoxymethylethoxy)propanol	9900** ppm
	Polyethylene glycol	7,700 mg/m3
CAS: 111-76-2	2-butoxyethanol	700 ppm
CAS: 1336-21-6	ammonia	2,300 ppm

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7 Handling and storage

Handling:
Precautions for safe handling Store in cool, dry place in tightly closed receptacles.
Information about protection against explosions and fires: No special measures required.

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: Protect from frost.
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.

Control parameters
Components with limit values that require monitoring at the workplace:
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

CAS: 34590-94-8 (2-methoxymethylethoxy)propanol	
PEL	Long-term value: 600 mg/m³, 100 ppm Skin
REL	Short-term value: 900 mg/m³, 150 ppm Long-term value: 600 mg/m³, 100 ppm Skin
TLV	Short-term value: 909 mg/m³, 150 ppm Long-term value: 606 mg/m³, 100 ppm Skin
Polyethylene glycol	
WEEL	Long-term value: 10 mg/m³ (H); MW>200
CAS: 111-76-2 2-butoxyethanol	
PEL	Long-term value: 240 mg/m³, 50 ppm Skin

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REL	Long-term value: 24 mg/m³, 5 ppm Skin
TLV	Long-term value: 97 mg/m³, 20 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

Exposure controls
Personal protective equipment:
General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
Wash hands before breaks and at the end of work.
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

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9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance:

Form:	Liquid
Color:	Colorless to light yellow
Odor:	Mild
pH-value at 20°C (68 °F):	7.1
Change in condition	
Melting point/Melting range:	0°C (32 °F) Undetermined.
Boiling point/Boiling range:	100°C (212 °F)
Flash point:	NA °C

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Ignition temperature: 240°C (464 °F)

Auto igniting: Product is not selfigniting.

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

Explosion limits:
Lower: 1.1Vol %
Upper: 14Vol %

Vapor pressure at 20°C (68 °F): 23hPa (17.3 mm Hg)

Density at 20°C (68 °F): 1.04g/cm³ (8.68 lbs/gal)

Solubility in / Miscibility with Water: Fully miscible.

Solvent content:
Organic solvents: 15.0%
Water: 73.5%

Solids content: 11.5%

10 Stability and reactivity

Reactivity No further relevant information available.
Chemical stability
Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
Possibility of hazardous reactions No dangerous reactions known.
Conditions to avoid No further relevant information available.
Incompatible materials: Strong acids, strong oxidizers.
Hazardous decomposition products:
When heated to soldering temperatures, solvents will be evaporated and organic matierial may release aliphatic aldehydes and acids.

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11 Toxicological information

Information on toxicological effects
Acute toxicity:

LD/LC50 values that are relevant for classification:		
CAS: 34590-94-8 (2-methoxymethylethoxy)propanol		
Oral	LD50	5,135 mg/kg (rat)
Dermal	LD50	>19,000 mg/kg (rab)

Primary irritant effect:
on the skin: No irritant effect.
on the eye: Irritating effect.
through inhalation: May cause respiratory irritation.
through ingestion: May cause gastrointestinal irritation.
Sensitization: Sensitization possible through inhalation.

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Additional toxicological information:

Carcinogenic categories

IARC (International Agency for Research on Cancer)		
CAS: 111-76-2	2-butoxyethanol	3

NTP (National Toxicology Program)
None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

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12 Ecological information

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.
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

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13 Disposal considerations

Waste treatment methods
Recommendation:
Disposal must be made according to official regulations.
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.

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14 Transport information

UN-Number
DOT, ADR, ADN, IMDG, IATA Not applicable
UN proper shipping name
DOT, ADR, ADN Not applicable
IMDG, IATA Not applicable
Not regulated

Transport hazard class(es)

DOT, ADR, ADN, IMDG, IATA
Class Not applicable
Packing group
DOT, IMDG, IATA Not applicable
Marine pollutant: No
Special precautions for user Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

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UN "Model Regulation": Not applicable

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15 Regulatory information

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

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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):	
CAS: 111-76-2	2-butoxyethanol
CAS: 1336-21-6	ammonia

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)		
CAS: 111-76-2	2-butoxyethanol	NL

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.
GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
Hazard pictograms

GHS07 GHS08

Signal word Danger
Hazard statements
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

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H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H402 Harmful to aquatic life.

Precautionary statements

P261	Avoid breathing dust/fume/gas/mist/vapors/spray
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
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.
P402+P404	Store in a dry place. Store in a closed container.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

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

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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 responsibilty 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
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
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)
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. 4: Flammable liquids – Category 4
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Resp. Sens. 1: Respiratory sensitisation – Category 1
Resp. Sens. 1B: Respiratory sensitisation – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard – Category 3

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