

DATE PRINTED: 7/02/2004
 MSDS NO. MB2159
 LIQUID FLUX

 SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

COMPANY IDENTIFICATION

HENKEL CORPORATION
 HENKEL TECHNOLOGIES
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 Non-Transportation:
 1-626-922-1605

PRODUCT NAME
 LIQUID FLUX

PRODUCT CODE
 M00363 M00364 M00435 M293319

PRODUCT DESCRIPTION
 X33S-07i No Clean Flux

 SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	PERCENT	CAS#
Trade Secret 2433	1.000- 5.000	PROPRIETARY
2-Propanol	60.000-100.000	67-63-0

DISCLOSURE
 This product is hazardous under the criteria of the USA OSHA Hazard Communication Standard 29 CFR 1910.1200.

Any ingredient claimed as a trade secret will be disclosed in accordance with 29 CFR 1910.1200 (i).

See Section 8 of this MSDS for any noted exposure limits for these compounds.

 SECTION 3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

 DANGER!
 Flammable liquid and vapor.
 Harmful if swallowed or inhaled.
 Causes eye irritation and respiratory irritation.
 May cause skin irritation.
 Colorless liquid, alcohol odor.

EYE CONTACT
 Contact causes eye irritation. Vapors cause eye irritation.
 Splashes cause severe irritation with possible corneal burns and eye damage.

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SECTION 3. HAZARDS IDENTIFICATION
(CONTINUED)

SKIN CONTACT

Prolonged or repeated contact may irritate skin and cause a rash (dermatitis).

INHALATION

Irritates the nose and throat and respiratory tract. Very high concentrations may cause symptoms of intoxication.

INGESTION

Harmful if swallowed. If swallowed the symptoms include vomiting, abdominal pain, drowsiness and loss of consciousness.

PRIMARY ROUTE OF EXPOSURE

Skin contact, inhalation, ingestion.

MEDICAL CONDITIONS AGGRAVATED

Persons with pre-existing skin disorders or impaired liver, kidney or pulmonary function may be more susceptible to effects of this product.

CARCINOGENICITY

IARC - Not Listed
OSHA - Not Listed
NTP - Not Listed

TARGET ORGANS

Ingredients may be toxic to the following organs:

Eyes, skin, respiratory tract, kidneys, liver.

SECTION 4. FIRST AID MEASURES

EYE CONTACT

Immediately wash/flush eyes with water for minimum 15 minutes. Seek medical attention.

SKIN CONTACT

Rinse skin immediately with plenty of water.
Remove contaminated clothing and shoes.
Seek medical attention, if irritation develops.

INHALATION

Remove victim to fresh air. If breathing is difficult get immediate medical attention. If not breathing give artificial respiration and call for emergency medical attention.

INGESTION

Seek prompt medical attention.
Do NOT induce vomiting.
Give large amounts of water to drink.
Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN

Treatment should be directed at the control of symptoms and the clinical conditions.

ANTIDOTES

There are no specific antidotes.

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SECTION 5. FIRE FIGHTING MEASURES

FLASH POINT
53.60 F 12.00 C

FLASH METHOD
Open Cup

EXTINGUISHING METHOD
Carbon dioxide, dry chemical, foam

FIRE FIGHTING PROCEDURES
Recommended use of self contained breathing apparatus (SCBA).

FIRE AND EXPLOSION HAZARDS
Heat in excess of flashpoint, open flame or storage with
incapitable materials

HAZARDOUS PRODUCTS/COMBUSTION
Oxides of Carbon.

SECTION 6. ACCIDENTAL RELEASE MEASURES

CLEAN-UP

Contain spill in natural form or with sand or dirt (inert material).
Eliminate all ignition sources.
Prevent runoff to storm sewers, ditches and waterways.
Shovel or scrape (non-metallic) absorbed waste materials into
disposal container.
Seal lid tightly with tape or locking ring and label properly.
Clean up spill immediately, observing precautions including adequate
ventilation and/or personal protective equipment (See Section 8).

SECTION 7. HANDLING AND STORAGE

HANDLING

Do not handle near heat, spark or flame. Use adequate ventilation.
Avoid contact. Ground and bond as appropriate.

STORAGE

Store in a cool, well ventilated area away from sources of ignition
strong oxidizing agents and reactive metals such as aluminium, zinc,
and their alloys.

GENERAL COMMENTS

Containers of this material may be hazardous when empty since they
retain product residues (vapors, liquid); observe all warnings and
precautions listed for the product. Small quantities of peroxides
can form on prolonged storage. Exposure to light and/or air
significantly increases the rate of peroxide formation. If
evaporated to a residue, the mixture of peroxides and isopropanol
may explode when exposed to heat or shock.

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 SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS

Work should be done in an adequately ventilated area (i.e., ventilation sufficient to maintain concentrations below one half of the PEL and other relevant standards). Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination.

EYE PROTECTION

Wear appropriate goggles, face shields or other Personal Protection Equipment (PPE) which will be effective under the circumstances if the possibility of contact exists. A program meeting 29 CFR 1910.133 requirements must be followed when PPE is necessary.

SKIN PROTECTION

Impermeable gloves and protective clothing as necessary to prevent skin contact.

RESPIRATORY PROTECTION

Appropriate respirators must be used, and a program that follows 29 CFR 1910.134 must be followed, when workplace hazards warrant the use of a respirator. NIOSH-approved respirators must be used when respiratory protection is necessary.

OTHER PROTECTION

A safety shower and eye wash station should be within reasonable distance of the work area.

EXPOSURE LIMITS/REGULATORY INFORMATION

SUBSTANCE DESCRIPTION	REG. AGCY	PELTL	STEL	CEIL
Trade Secret 2433	OSHA	N/D	N/D	N/D
	ACGIH	5.0000	N/D	N/D
2-Propanol	OSHA	980.0000	N/D	N/D
	ACGIH	983.0000	1230.0000	N/D

LEGEND:

EXPOSURE LIMIT DESCRIPTIONS

CEIL Ceiling Exposure Limit
 PELTL PEL/TLV (TWA)
 STEL Short Term Exposure Limit
 N/D = Not Determined

UNIT OF MEASURE

Mg/M3 Milligrams per Cubic Meter

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR

Colorless liquid, alcohol odor.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES
(CONTINUED)

SPECIFIC GRAVITY
.79

VAPOR PRESSURE (mm Hg)
44
@ 25 deg C (77F)

VAPOR DENSITY (Air = 1.0)
2.1

EVAPORATION RATE
2.93

SOLUBILITY IN WATER
Partially

SOLUBILITY IN OTHER SOLVENTS
N/D

BOILING POINT
179.60 F 82.00 C

MELTING POINT
-128.20 F -89.00 C

VOLATILE ORGANIC COMPOUNDS
VOC - % 100% @ 70 deg F
VOC - grams/Liter N/D
VOC - lbs/Gal N/D

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES

Strong oxidizing agents, halogens, mineral acids and halides of phosphorus and sulphur. Avoid contact with aluminium, zinc and alloys containing a high proportion of these metals.

DECOMPOSITION

Carbon dioxide
Carbon monoxide

POLYMERIZATION

Hazardous polymerization will not occur.

CONDITIONS TO AVOID

High temperatures, open flames, sparks, oxidizing conditions and ignition sources.

STABILITY

Stable

SECTION 11. TOXICOLOGICAL INFORMATION

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SECTION 11. TOXICOLOGICAL INFORMATION
(CONTINUED)

DERMAL EFFECTS

Refer to Section 3.

TOXICITY DATA

2 Propanol:

Oral rat LD50: 5045 mg/kg; Skin rabbit LD50: 12.8 gm/kg;
Inhalation rat LC50: 16,000 ppm/8 hour; investigated as a
tumorigen, mutagen, reproductive effector.

SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Environmental Fate of 2 Propanol:

When released into the soil, this material is expected to quickly evaporate, may leach into groundwater and may biodegrade to a moderate extent. When released to water this material is expected to quickly evaporate, to have a half-life between 1 and 10 days, and may biodegrade to a moderate extent. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to have a half-life between 1 and 10 days, and may be removed from the atmosphere to a moderate extent by wet deposition.

Environmental Toxicity of 2 Propanol:

The LC50/96-hour values for fish are over 100 mg/l. This material is not expected to be toxic to aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

Disposal of waste properly and in accordance with legal requirements is the responsibility of the owner/generator of the waste, and may be subject to state and/or local regulations, which may change frequently. Accordingly, applicable legal requirements should be confirmed with all relevant authorities prior to treatment, storage or disposal of waste containing the material described in this MSDS.

It is recommended that all waste resulting from use of this material be: first, reused or reintroduced into the process; second, reclaimed, regenerated or otherwise recycled, if reuse is not possible; third, burned for energy recovery or incinerated as preferred means of disposal, with appropriate treatment of combustion residues to render them inert, if recycling is not possible; fourth, treated to render it inert prior to disposal.

SECTION 14. TRANSPORT INFORMATION

DOT/IATA PROPER SHIPPING NAME

Resin Solution

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SECTION 14. TRANSPORT INFORMATION
(CONTINUED)

DOT/IATA PACKING GROUP
II

DOT/IATA HAZARD CLASS OR DIV
3

DOT/IATA LABEL
Flammable Liquid

DOT/IATA PLACARD
Flammable Liquid

DOT/IATA UN NUMBER
UN1866

PRODUCT REPORTABLE QTY (LBS)
N/D

ADR
N/D

SECTION 15. REGULATORY INFORMATION

Component Trade Secret 2433 is subject to the following

Environmental List

CERCLA	CERCLA Hazardous Substances
311/312	SARA Sect. 311/312

Component 2-Propanol is subject to the following

Environmental List

311/312	SARA Sect. 311/312
313	SARA Sect. 313

CALIFORNIA PROPOSITION 65
None.

TOXIC SUBSTANCE CONTROL ACT
All the components contained in this product comply with applicable requirements pertaining to the US EPA Toxic Substance Control Act (TSCA) inventory under 40CFR Part 710 and 720.

SECTION 16. OTHER INFORMATION

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SECTION 16. OTHER INFORMATION
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HMIS
Health 2 Flammability 3 Reactivity 0 Hazard Rating
Least 0 Slight 1
Moderate 2 High 3
Extreme 4

WHMIS CLASSIFICATION

D2B, B2

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

REVISION NO.
002

REVISION DATE
3/21/2003

REVISION SECTION/REASON
Section 14 / DOT/IATA PROPER SHIPPING NAME change.

APPROVED BY
HSE - Industry, California

CREATED BY
HSE, INDUSTRY, CALIF.

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KEY TO ABBREVIATIONS:

EQ=Equal LT=Less Than GT=Greater Than
AP=Approximately TR=TRace ND=No Data available
N/D = Not Determined