SAFETY DATA SHEET



AZ KWIK Strip(TM) Remover

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SECTION 1. IDENTIFICATION

Product identifier

Product name : AZ KWIK Strip(TM) Remover

Product number : 184511

Recommended use of the chemical and restrictions on use

Recommended use : Intermediate for electronic industry

Details of the supplier of the safety data sheet

Company : EMD Performance Materials, an Affiliate of Merck KGaA,

Darmstadt, Germany, 1200 Intrepid Avenue, Suite 300,

Philadelphia, PA 19112, 1-888-367-3275, www.emdgroup.com/electronics

Emergency telephone : 1-800-424-9300 CHEMTREC (USA)

1-703-741-5970 CHEMTREC (International)

24 Hours/day; 7 Days/week

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Eye irritation : Category 2A

Reproductive toxicity : Category 1B

GHS label elements

Hazard pictograms :





Signal Word : Danger

Hazard Statements : H319 Causes serious eye irritation.

H360FD May damage fertility. May damage the unborn child.



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Precautionary Statements : Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read

and understood.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/ protective clothing/ eye protection/

face protection.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy

to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/

attention.

P337 + P313 If eye irritation persists: Get medical advice/

attention.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

| Chemical name | Concentration (% w/w) | | CAS-No. |
|---------------------------------|-----------------------|------|-------------------|
| (2-methoxymethylethoxy)propanol | >= 50 - | < 70 | 34590-94-8 |
| Polar aprotic solvent | >= 30 - | < 50 | 67829000004-7822P |
| Polyglycol ether | >= 1 - | < 5 | 67829000004-5718P |

SECTION 4. FIRST AID MEASURES

If inhaled : fresh air. Call in physician.

In case of skin contact : Take off immediately all contaminated clothing. Rinse skin

with water/ shower. Consult a physician.



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In case of eye contact : Rinse out with plenty of water.

Call in ophthalmologist. Remove contact lenses.

If swallowed : immediately make victim drink water (two glasses at most).

Consult a physician.

Most important symptoms and effects, both acute and

delayed

irritant effects

Notes to physician : No information available.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water

Foam

Carbon dioxide (CO2)

Dry powder

Unsuitable extinguishing

media

For this substance/mixture no limitations of extinguishing

agents are given.

Specific hazards during fire

fighting

Combustible.

Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapors

possible in the event of fire.

Further information : Suppress (knock down) gases/vapors/mists with a water spray

jet.

Prevent fire extinguishing water from contaminating surface

water or the ground water system.

Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.

Special protective equipment:

for fire-fighters

Stay in danger area only with self-contained breathing

apparatus. Prevent skin contact by keeping a safe distance or

by wearing suitable protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and

: Advice for non-emergency personnel:

Do not breathe vapors, aerosols.



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emergency procedures Avoid substance contact.

Ensure adequate ventilation.

Evacuate the danger area, observe emergency procedures,

consult an expert.

Advice for emergency responders: Protective equipment see section 8.

Indications about waste treatment see section 13.

Environmental precautions : Do not flush into surface water or sanitary sewer system.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.

Do not inhale substance/mixture.

Avoid generation of vapors/aerosols.

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Storage conditions : Risks from decomposition products: see section 10

Tightly closed.

Keep in a well-ventilated place.

Keep locked up or in an area accessible only to qualified or

authorized persons.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|------------------------------------|------------|-------------------------------------|--|-----------|
| (2- methoxymethylethoxy)propano | 34590-94-8 | TWA | 100 ppm | ACGIH |
| | | STEL | 150 ppm | ACGIH |
| | | TWA | 100 ppm | NIOSH REL |
| | | | 600 mg/m3 | |
| | | STEL | 150 ppm | NIOSH REL |



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| | 900 mg/m3 | |
|------|----------------------|----------|
| TWA | 100 ppm 600 mg/m3 | OSHA Z-1 |
| TWA | 100 ppm 600 mg/m3 | OSHA P0 |
| STEL | 150 ppm 900 mg/m3 | OSHA P0 |

Hazardous components without workplace control parameters

| Components | 3 | CAS-No. |
|---------------|---------|------------|
| Polar aprotic | solvent | 6782900000 |
| | | 4-7822P |
| Polyglycol et | ther | 6782900000 |
| | | 4-5718P |

Engineering measures : Ensure that eye flushing systems and safety showers are

located close to the working place.

Technical measures and appropriate working operations should be given priority over the use of personal protective

equipment. See section 7.

Personal protective equipment

Respiratory protection : required when vapors/aerosols are generated.

Hand protection

Additional Protection : Chemical-resistant, impervious gloves complying with an

approved standard should be worn at all times when handling

chemical products.

Eye protection : Safety glasses

Hygiene measures : Immediately change contaminated clothing. Apply preventive

skin protection. Wash hands and face after working with

substance.

Avoid contact with skin, eyes and clothing.

Wash hands and face before breaks and immediately after

handling the product.

Keep away from food and drink.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state liquid

Form liquid



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Color clear

yellow

Odor solvent

Odor Threshold No information available.

pH No information available.

Melting point/range < -10 °C

(solvent)

Boiling point/boiling range 356 °F (180 °C)

Flash point 236 °F (113 °C)

Method: closed cup

Evaporation rate No information available.

Flammability (solid, gas) No information available.

Lower explosion limit No information available.

Upper explosion limit No information available.

Vapor pressure ca.5 Torr

at 68 °F (20 °C)

Relative vapor density >1

Density 1.06 g/cm3

Relative density No information available.

Water solubility soluble

Partition coefficient: n-

octanol/water

Autoignition temperature No information available.

No information available.



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Decomposition temperature No information available.

Viscosity, dynamic No information available.

Explosive properties No information available.

Oxidizing properties No information available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be

rated as critical.

Chemical stability : The product is chemically stable under standard ambient

conditions (room temperature).

Possibility of hazardous

reactions

: Hydrolyzes in presence of: Strong acids and strong bases

Hydrolyzes in presence of: Strong acids and strong bases

Conditions to avoid : Strong heating.

Incompatible materials : no information available

Hazardous decomposition

products

: in the event of fire: See section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Product

Carcinogenicity

IARC No ingredient of this product present at levels greater than or

equal to 0.1% is identified as probable, possible or confirmed

human carcinogen by IARC.

OSHA No component of this product present at levels greater than or

equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or

equal to 0.1% is identified as a known or anticipated carcinogen

by NTP.

Likely route of exposure Eye contact, Skin contact



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Acute oral toxicity

Acute toxicity estimate: > 5,000 mg/kg

Calculation method

Acute inhalation toxicity

Symptoms: Possible symptoms:

Acute dermal toxicity

Acute toxicity estimate: > 5,000 mg/kg

Calculation method

Eye irritation

Mixture causes serious eye irritation.

Mixture causes serious eye irritation.
Teratogenicity / Reproductive toxicity:
May damage fertility. May damage the unborn child.

Experience with human exposure

Other Relevant Toxicity Information:

No toxicological testing was carried out on the preparation.

Other dangerous properties can not be excluded., This substance should be handled with particular care.

Components

(2-methoxymethylethoxy)propanol (34590-94-8):

Acute oral toxicity LD50 Rat: > 5,000 mg/kg OECD Test Guideline 401(ECHA)

Acute inhalation toxicity

LC50 Rat: 166 mg/l275 ppm; 7 h; vapor

OECD Test Guideline 403

Acute dermal toxicity LD50 Rabbit: 9,500 mg/kg OECD Test Guideline 402 (ECHA)

Skin irritation Rabbit Result: No irritation OECD Test Guideline 404 (ECHA)



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Eye irritation

Rabbit

Result: slight irritation

Draize Test

Sensitization

Patch test: Human

Result: negative

(IUCLID)

Repeated dose toxicity

Rabbit

male and female

NOAEL: 2,850 mg/kg

OECD Test Guideline 411

(ECHA)

Germ cell mutagenicity

Genotoxicity in vitro

Ames test

Result: negative

(IUCLID)

Polar aprotic solvent (67829000004-7822P):

Acute oral toxicity

LD50 Rat: 2,006 mg/kg

OECD Test Guideline 401(Regulation (EC) No 1272/2008, Annex VI)

Acute inhalation toxicity

LC50 Rat: 12 mg/l; 4 h; aerosol (Regulation (EC) No 1272/2008, Annex VI) (ECHA)

Test substance: yes

Acute dermal toxicity

LD50 Rat: > 2,000 mg/kg (ECHA)

Skin irritation

Rabbit

Result: No irritation

(ECHA)

Eye irritation

Rabbit

Result: slight irritation

(ECHA)

Sensitization

Sensitization test: Guinea pig

Result: negative

Method: OECD Test Guideline 406

Repeated dose toxicity

Rat

male and female

Oral

28 d

daily



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NOAEL: 200 mg/kg

(ECHA)

Guinea pig inhalation (vapor) 90 - 110 d daily

NOAEL: 0.159 mg/l

(ECHA)

Germ cell mutagenicity Genotoxicity in vitro Mutagenicity (mammal cell test): MOUSE LYMPHOMA TEST

Result: negative

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

CMR effects

Teratogenicity:

Clear evidence of adverse effects on development, based on animal experiments. Reproductive toxicity: Clear evidence of adverse effects on sexual function and fertility, based on animal experiments.

Teratogenicity

Application Route: Oral

Rat

Number of exposures: daily Method: OECD Test Guideline 414

Effects on fertility

Species: Rat, male and female

General Toxicity Parent: NOAEL: 200 mg/kg body weight General Toxicity F1: NOAEL: 60 mg/kg body weight

Method: OECD Test Guideline 421

Remarks: Regarding the available data the classification criteria are not fulfilled.

Effects on fetal development Species: Rat, female Application Route: Oral

General Toxicity Maternal: NOAEL: 100 mg/kg body weight

Method: OECD Test Guideline 414

Polyglycol ether (67829000004-5718P):

Eye irritation

Result: Irreversible effects on the eye

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity Product

Persistence and degradability



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No information available.

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Additional ecological information

No ecological testing was carried out on the preparation.

Discharge into the environment must be avoided.

Components

(2-methoxymethylethoxy)propanol (34590-94-8):

Toxicity to fish static test LC50 Poecilia reticulata (guppy): > 1,000 mg/l; 96 h Analytical monitoring: yes OECD Test Guideline 203 (ECHA)

Toxicity to daphnia and other aquatic invertebrates static test EC50 Daphnia magna (Water flea): 1,919 mg/l; 48 h OECD Test Guideline 202 (ECHA)

Toxicity to algae static test ErC50 Pseudokirchneriella subcapitata (green algae): > 969 mg/l; 96 h Analytical monitoring: yes OECD Test Guideline 201 (ECHA)

Toxicity to bacteria static test EC10 Pseudomonas putida: 4,168 mg/l; 18 h (ECHA)

Biodegradability 96 %; 28 d; aerobic OECD Test Guideline 301F (ECHA) Readily biodegradable.

Biochemical Oxygen Demand (BOD) 650 mg/g (20 d) (External MSDS)

Partition coefficient: n-octanol/water log Pow: 0.004 (25 °C)
OECD Test Guideline 107
Bioaccumulation is not expected.

Surface tension 68.7 mN/m at 20 °C Method: OECD Test Guideline 115



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Polar aprotic solvent (67829000004-7822P):

Toxicity to fish static test LC50 Oryzias latipes (Orange-red killifish): > 100 mg/l; 96 h Analytical monitoring: yes OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates EC50 Daphnia magna (Water flea): 852 mg/l; 48 h Analytical monitoring: yes OECD Test Guideline 202 (ECHA)

NOEC Daphnia magna (Water flea): 171 mg/l; 48 h Analytical monitoring: yes OECD Test Guideline 202

Toxicity to algae static test EC50 Pseudokirchneriella subcapitata (green algae): > 1,000 mg/l; 72 h Analytical monitoring: yes OECD Test Guideline 201

static test NOEC Pseudokirchneriella subcapitata (green algae): 556 mg/l; 72 h Analytical monitoring: yes OECD Test Guideline 201

Toxicity to bacteria semi-static test NOEC activated sludge: 100 mg/l; 14 d (ECHA)

Biodegradability 10.1 %; 14 d; aerobic OECD Test Guideline 301C Not readily biodegradable.

Partition coefficient: n-octanol/water log Pow: < 0 (20 °C)
OECD Test Guideline 117
Bioaccumulation is not expected.

Substance does not meets the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Polyglycol ether (67829000004-5718P):

No information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Product Waste : Waste material must be disposed of in accordance with national and local regulations. Leave chemicals in original

containers. No mixing with other waste. Handle uncleaned



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containers like the product itself.

SECTION 14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

Polar aprotic solvent

67829000004-7822P

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

(2-methoxymethylethoxy)propanol

34590-94-8



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Polar aprotic solvent 67829000004-7822P

Pennsylvania Right To Know

(2-methoxymethylethoxy)propanol 34590-94-8

Polar aprotic solvent 67829000004-7822P

New Jersey Right To Know

(2-methoxymethylethoxy)propanol 34590-94-8

California Prop. 65 This product does not contain any chemicals known to the

State of California to cause cancer, birth, or any other

reproductive defects.

The ingredients of this product are reported in the following inventories:

DSL : All components of this product are on the Canadian DSL

TSCA : All substances listed on the TSCA Active Inventory.

SECTION 16. OTHER INFORMATION

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.