SECTION 1. IDENTIFICATION

Product identifier

Product name : AZ Remover 880

Product number : 555786

Recommended use of the chemical and restrictions on use

Recommended use : Materials for use in technical applications

Details of the supplier of the safety data sheet


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

Corrosive to Metals : Category 1
Acute toxicity : Category 4
Skin irritation : Category 2
Eye irritation : Category 1

GHS label elements

Hazard pictograms :

Signal Word : Danger
Hazard Statements : H290 May be corrosive to metals.
SAFETY DATA SHEET

AZ Remover 880

H302 Harmful if swallowed.
H318 Causes serious eye damage.
H315 Causes skin irritation.

Precautionary Statements:

Prevention:
P202 Do not handle until all safety precautions have been read and understood.
P234 Keep only in original container.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P302 + P352 IF ON SKIN: Wash with plenty of water.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position 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.
P333 If skin irritation or rash occurs:
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 7.88 %

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Concentration (% w/w)</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>dicarboxylic acid</td>
<td>1 - 5</td>
<td>67829000004-7809P</td>
</tr>
<tr>
<td>(2-methoxymethylethoxy)propanol</td>
<td>50 - 60</td>
<td>34590-94-8</td>
</tr>
<tr>
<td>sulfonic acid</td>
<td>&gt;= 0 - &lt;= 5</td>
<td>67829000004-7701P</td>
</tr>
<tr>
<td>Polar aprotic solvent</td>
<td>30 - 40</td>
<td>67829000004-7822P</td>
</tr>
</tbody>
</table>
SECTION 4. FIRST AID MEASURES

If inhaled : Fresh air.

In case of skin contact : rinse out with polyethylene glycol 400 or a mixture of polyethylene glycol 300/ethanol 2:1 and wash with plenty of water. If neither is available wash with plenty of water. Immediately take off contaminated clothing. Seek medical advice immediately.

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

If swallowed : Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : We have no description of any toxic symptoms.

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. 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. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Avoid breathing vapors and keep upwind.

Special protective equipment for fire-fighters : Well closed full protective clothing (coat and pants) including helmet.
SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
- Advice for non-emergency personnel:
  - Do not breathe vapors, aerosols.
  - 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:
- No special precautionary measures necessary.

Methods and materials for containment and cleaning up:
- Observe possible material restrictions (see sections 7 and 10).
- Take up with liquid-absorbent and neutralizing material (e.g. Chemizorb® H⁺, Art. No. 101595). Dispose of properly. Clean up affected area.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:
- Advice on safe handling:
  - Avoid contact with skin and eyes.
  - Keep away from flames and sparks.

Conditions for safe storage, including any incompatibilities:
- Conditions for safe storage:
  - Store in original container.
  - Keep tightly closed in a dry, cool and well-ventilated place.

Storage conditions:
- Risks from decomposition products: see section 10

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2-methoxymethylethoxy)propanol</td>
<td>34590-94-8</td>
<td>TWA</td>
<td>100 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>150 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>100 ppm</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>600 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>150 ppm</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>900 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>100 ppm</td>
<td>OSHA Z-1</td>
</tr>
</tbody>
</table>
Hazardous components without workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polar aprotic solvent</td>
<td>67829000000 4-7822P</td>
</tr>
</tbody>
</table>

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: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Eye protection: Safety glasses

Hygiene measures: 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>solution</td>
</tr>
<tr>
<td>Form</td>
<td>liquid</td>
</tr>
<tr>
<td>Color</td>
<td>light yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic of solvents</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available.</td>
</tr>
<tr>
<td>pH</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Melting point</td>
<td>No information available.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No information available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>approximately 199 °F (93 °C)</td>
</tr>
<tr>
<td>Method</td>
<td>closed cup</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available.</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No information available.</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>No information available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available.</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>No information available.</td>
</tr>
<tr>
<td>Density</td>
<td>1.071 g/cm³ at 68 °F (20 °C)</td>
</tr>
<tr>
<td>Water solubility</td>
<td>partly soluble - phase separation</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

SECTION 10. STABILITY AND REACTIVITY

Reactivity: Forms explosive mixtures with air on intense heating. No dangerous reaction known under conditions of normal use. 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: no information available

Conditions to avoid: Heat, flames and sparks.

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

**Acute oral toxicity**
Acute toxicity estimate: > 5,000 mg/kg
Calculation method

**Acute dermal toxicity**
Acute toxicity estimate: > 5,000 mg/kg
Calculation method

**Experience with human exposure**
Other Relevant Toxicity Information:
Handle in accordance with good industrial hygiene and safety practice.

**Components**

dicarboxylic acid (67829000004-7809P):

* Acute oral toxicity
  LD50 Rat: 375 mg/kg

* Acute dermal toxicity
  LD50 Rabbit: 20,000 mg/kg

Eye irritation
Rabbit
Result: Corrosive

(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: 55 - 60 mg/l; 4 h; vapor (External MSDS)
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)

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)

sulfonic acid (67829000004-7701P):

Acute oral toxicity
LD50 Oral Rat: 500 - 2,000 mg/kg (External MSDS)

Acute dermal toxicity
LD50 Dermal Rabbit: > 2,000 mg/kg (External MSDS)

Skin irritation
Result: Causes severe burns.
(External MSDS)

Eye irritation
Result: Risk of serious damage to eyes.
(External MSDS)

Polar aprotic solvent (67829000004-7822P):

Acute oral toxicity
LD50 Rat: 1,941 mg/kg (RTECS)
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
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
Ames test
Escherichia coli/Salmonella typhimurium
Result: negative
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471

Mutagenicity (mammal cell test):
MOUSE LYMPHOMA TEST
Result: negative
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476

Reproductive toxicity
Rat
Method: OECD Test Guideline 421
Regarding the available data the classification criteria are not fulfilled.
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

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
Product

Persistence and degradability
No information available.

Bioaccumulative potential
No information available.

Mobility in soil
No information available.

Additional ecological information
No ecological problems are to be expected when the product is handled and used with due care and attention.

Components

dicarboxylic acid (67829000004-7809P):
No information available.

(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)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)
flow-through test NOEC Daphnia magna (Water flea): >= 0.5 mg/l; 22 d
OECD Test Guideline 211 (ECHA)

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

Biochemical Oxygen Demand (BOD)
650 mg/l (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

sulfonic acid (67829000004-7701P):

Toxicity to fish
LC50: 1.67 mg/l; 96 h (External MSDS)

Toxicity to daphnia and other aquatic invertebrates
EC50 Daphnia: 2.4 mg/l; 48 h (External MSDS)

Toxicity to algae
EC50 algae: 47.3 mg/l; 72 h

Biodegradability
Readily biodegradable.
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

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.

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 containers like the product itself.

SECTION 14. TRANSPORT INFORMATION

DOT / 49CFR
UN/ID/NA number: UN 3265
Proper shipping name: Corrosive liquid, acidic, organic, n.o.s.
AZ Remover 880

(Class: 8
Packing group: II
Labels: CORROSIVE
ERG Code: 153
Marine pollutant: no

International Regulations

IATA-DGR
UN/ID No.: UN 3265
Proper shipping name: Corrosive liquid, acidic, organic, n.o.s. (Dicarboxylic acid)
Class: 8
Packing group: II
Labels: Corrosive
Packing instruction (cargo aircraft): 855
Packing instruction (passenger aircraft): 851

IMDG-Code
UN number: UN 3265
Proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Dicarboxylic acid)
Class: 8
Packing group: II
Labels: 8
EmS Code: F-A, S-B
Marine pollutant: no
Remarks: Acids

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know
CERCLA Reportable Quantity
*: Calculated RQ exceeds reasonably attainable upper limit.

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

Clean Water Act
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307.
The following Hazardous Substances are listed under the U.S. Clean Water Act, Section 311, Table 116.4A:
  sulfonic acid

The following Hazardous Chemicals are listed under the U.S. Clean Water Act, Section 311, Table 117.3:
  sulfonic acid

US State Regulations
Massachusetts Right To Know
  dicarboxylic acid
  (2-methoxymethylethoxy)propanol
  sulfonic acid
  Polar aprotic solvent

Pennsylvania Right To Know
  dicarboxylic acid
  (2-methoxymethylethoxy)propanol
  sulfonic acid
  Polar aprotic solvent

New Jersey Right To Know
  dicarboxylic acid
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: This product or its components are listed on or compliant with the DSL.

TSCA: All components of the product are listed in the TSCA-inventory.

TSCA list
The following substance(s) is/are subject to TSCA 12(b) export notification requirements:
dicarboxylic acid 67829000004-7809P

SECTION 16. OTHER INFORMATION

The information provided in this Material 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.