a member of the Roche Group

Material Safety Data Sheet

Material Name: AFB Decolorizer II **MSDS ID: 00232046**

* * * Section 1 - Chemical Product and Company Identification* * *

Manufacturer Information

VENTANA MEDICAL SYSTEMS INC.
1910 E. Innovation Park Drive
Tucson, AZ 85755
Phone: (520) 887-2155

EMERGENCY TELEPHONE NUMBER:
(800) 424-9300 (USA/Canada)
CHEMTREC: +1 (703) 527-3887 (International)

Material Name: AFB Decolorizer II

Product Number(s)

860-027, 1504082, 5279437001, 06038620001

Product Use

clinical/research

* * * Section 2 - Hazards Identification* * *

NFPA Ratings: Health: 3 **Fire:** 2 **Reactivity:** 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Preparation

T,C; R:10-23/24/25-39/23/24/25-35

Risks

Flammable.
Toxic by inhalation, in contact with skin and if swallowed.
Causes severe burns.
Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

EMERGENCY OVERVIEW

Color: colorless to pale yellow
Physical Form: liquid
Odor: odorless
Major Health Hazards: potentially fatal if inhaled, respiratory tract burns, skin burns, eye burns, mucous membrane burns, central nervous system depression, nerve damage, cancer hazard (in humans)
Physical Hazards: Flash back hazard. Combustible liquid and vapor.

POTENTIAL HEALTH EFFECTS

Inhalation

Short Term: potentially fatal if inhaled, burns, headache, dizziness, drowsiness, loss of coordination
Long Term: burns, headache, dizziness, drowsiness, loss of coordination, nerve damage, cancer

Skin

Short Term: burns, absorption may occur, headache, dizziness, drowsiness, loss of coordination
Long Term: burns, absorption may occur, headache, dizziness, drowsiness, loss of coordination, nerve damage

Eye

Short Term: burns
Long Term: burns

Ingestion

Short Term: burns, headache, dizziness, drowsiness, loss of coordination
Long Term: burns, headache, dizziness, drowsiness, loss of coordination, nerve damage

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

* * * Section 3 - Composition/Information on Ingredients* * *

CAS #	Component / EU Number	Percent	Symbol(s)	Risk Phrase(s)
67-56-1	METHYL ALCOHOL 200-659-6	40-70	F T	R:11-23/24/25-39/23/24/25
7664-93-9	SULFURIC ACID 231-639-5	10-30	C	R:35
Not Available	NON-HAZARDOUS -	10-30	---	---

* * * Section 4 - First Aid Measures* * *

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Skin

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Thoroughly clean and dry contaminated clothing and shoes before reuse. Destroy contaminated shoes.

Eyes

Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion

If swallowed, drink plenty of water, do NOT induce vomiting. Get immediate medical attention.

Note to Physicians

For inhalation, consider oxygen.
Avoid gastric lavage or emesis.

* * * Section 5 - Fire-Fighting Measures* * *

See Section 9 for Flammability Properties

Flammable Properties

Moderate fire hazard. Vapor/air mixtures are explosive above flash point. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back.

Extinguishing Media

regular dry chemical, carbon dioxide, water spray, alcohol resistant foam

Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Flood with fine water spray. Do not scatter spilled material with high-pressure water streams. Avoid inhalation of material or combustion by-products.

Hazardous Combustion Products

Thermal decomposition or combustion products: oxides of carbon, oxides of sulfur

Sensitivity to Mechanical Impact

Not sensitive

Sensitivity to Static Discharge

Yes

* * * Section 6 - Accidental Release Measures* * *

Water Release

Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.

Occupational Spill/Release

Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. **Small spills:** Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.

* * * Section 7 - Handling and Storage* * *

Handling Procedures

Wash thoroughly after handling.

Storage Procedures

Store and handle in accordance with all current regulations and standards. Store at room temperature. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106. Grounding and bonding required. See original container for storage recommendations. Keep separated from incompatible substances.

* * * Section 8 - Exposure Controls/Personal Protection* * *

Exposure Limits

METHYL ALCOHOL (67-56-1)

ACGIH:	200 ppm TWA 250 ppm STEL Skin - potential significant contribution to overall exposure by the cutaneous route 15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)
NIOSH:	200 ppm TWA; 260 mg/m3 TWA 250 ppm STEL; 325 mg/m3 STEL Potential for dermal absorption 6000 ppm IDLH
OSHA:	200 ppm TWA; 260 mg/m3 TWA 250 ppm STEL; 325 mg/m3 STEL Prevent or reduce skin absorption
	200 ppm TWA; 260 mg/m3 TWA
EEC:	200 ppm TWA; 260 mg/m3 TWA Possibility of significant uptake through the skin
Austria:	800 ppm STEL (4 X 15 min); 1040 mg/m3 STEL (4 X 15 min) 200 ppm MAK; 260 mg/m3 MAK skin notation
Belgium:	250 ppm STEL; 333 mg/m3 STEL 200 ppm TWA; 266 mg/m3 TWA Skin
Denmark:	200 ppm TWA; 260 mg/m3 TWA Potential for cutaneous absorption
Finland:	250 ppm STEL; 330 mg/m3 STEL 200 ppm TWA; 270 mg/m3 TWA Potential for cutaneous absorption
France:	1000 ppm VLCT; 1300 mg/m3 VLCT 200 ppm VME (restrictive limit); 260 mg/m3 VME (restrictive limit) Risk of cutaneous absorption
Germany:	200 ppm TWA (exposure factor 4); 270 mg/m3 TWA (exposure factor 4) skin notation
Germany (DFG):	200 ppm MAK; 270 mg/m3 MAK 800 ppm Peak; 1080 mg/m3 Peak skin notation
Greece:	250 ppm STEL; 325 mg/m3 STEL 200 ppm TWA; 260 mg/m3 TWA skin - potential for cutaneous absorption
Ireland:	200 ppm TWA; 260 mg/m3 TWA Potential for cutaneous absorption
Italy:	200 ppm TWA; 260 mg/m3 TWA skin - potential for cutaneous absorption
Japan	200 ppm OEL; 260 mg/m3 OEL May cause substantial skin absorption
Netherlands:	520 mg/m3 STEL 260 mg/m3 TWA skin notation
Portugal:	200 ppm TWA 250 ppm STEL skin - potential for cutaneous exposure
Spain:	200 ppm VLA-ED (indicative limit value); 266 mg/m3 VLA-ED (indicative limit value) skin - potential for cutaneous exposure
Sweden:	200 ppm LLV; 250 mg/m3 LLV 250 ppm STV; 350 mg/m3 STV Skin notation
United Kingdom:	250 ppm STEL; 333 mg/m3 STEL 200 ppm TWA; 266 mg/m3 TWA

Potential for cutaneous absorption

SULFURIC ACID (7664-93-9)

ACGIH:	0.2 mg/m3 TWA (thoracic fraction)
NIOSH:	1 mg/m3 TWA
	15 mg/m3 IDLH
OSHA:	1 mg/m3 TWA
	1 mg/m3 TWA
Austria:	2 mg/m3 STEL (inhalable fraction, 8 X 5 min)
	1 mg/m3 MAK (inhalable fraction)
Belgium:	3 mg/m3 STEL
	1 mg/m3 TWA
Denmark:	1 mg/m3 TWA
Finland:	1 mg/m3 STEL
	0.2 mg/m3 TWA
France:	3 mg/m3 VLCT
	1 mg/m3 VME
Germany (DFG):	0.1 mg/m3 MAK (inhalable fraction)
	0.1 mg/m3 Peak (inhalable fraction)
Greece:	1 mg/m3 TWA
Ireland:	1 mg/m3 TWA
Japan	1 mg/m3 Ceiling
Portugal:	0.2 mg/m3 TWA (thoracic fraction)
Spain:	3 mg/m3 VLA-EC
	1 mg/m3 VLA-ED
Sweden:	1 mg/m3 LLV
	3 mg/m3 STV

Ventilation

Provide adequate ventilation. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

Safety glasses or goggles are recommended when there is a potential for eye contact. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Protective Clothing

Lab coat or apron.

Glove Recommendations

Wear appropriate chemical resistant gloves.

Protective Materials

latex, vinyl, nitrile

Respiratory Protection

No respirator is required under normal conditions of use.

* * * Section 9 - Physical and Chemical Properties* * *

Physical State:	Liquid	**Appearance:**	Clear, colorless to pale yellow liquid
Color:	colorless to pale yellow	**Physical Form:**	liquid
Odor:	odorless	**Odor Threshold:**	Not available
pH:	0.20	**Melting/Freezing Point:**	Not available
Boiling Point:	124-125 °C	**Decomposition:**	Not available
Flash Point:	46 °C	**Evaporation Rate:**	Not available
OSHA Flammability Class:	II	**LEL:**	2.5 %
UEL:	24.5 %	**Vapor Pressure:**	Not available
Vapor Density (air = 1):	Not available	**Density:**	Not available
Specific Gravity (water = 1):	Not available	**Water Solubility:**	miscible
Log KOW:	Not available	**Coeff. Water/Oil Dist.:**	Not available
Auto Ignition:	Not available	**Viscosity:**	Not available
Volatility:	Not available		

* * * Section 10 - Stability and Reactivity* * *

Chemical Stability

Stable at normal temperatures and pressure.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat. Keep out of water supplies and sewers.

Materials to Avoid

acids, amines, bases, combustible materials, halocarbons, halogens, metal carbide, metal salts, metals, oxidizing materials, peroxides, reducing agents

Decomposition Products

Thermal decomposition or combustion products: oxides of carbon, oxides of sulfur

Possibility of Hazardous Reactions

Will not polymerize.

* * * Section 11 - Toxicological Information* * *

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

METHYL ALCOHOL (67-56-1)

Inhalation LC50 Rat 83.2 mg/L 4 h; Inhalation LC50 Rat 64000 ppm 4 h; Oral LD50 Rat 5628 mg/kg; Dermal LD50 Rabbit 15800 mg/kg

SULFURIC ACID (7664-93-9)

Inhalation LC50 Mouse 320 mg/m3 2 h; Inhalation LC50 Rat 510 mg/m3 2 h; Inhalation LC50 Rat 347 ppm 1 h; Oral LD50 Rat 2140 mg/kg

RTECS Acute Toxicity (selected)

The components of this material have been reviewed, and RTECS publishes the following endpoints:

METHYL ALCOHOL (67-56-1)

Inhalation: 64000 ppm/8 hour Inhalation Rat LC50; 64000 ppm/4 hour Inhalation Rat LC50; 145000 ppm/1 hour Inhalation Rat LC50
Oral: 5600 mg/kg Oral Rat LD50
Skin: 15800 mg/kg Skin Rabbit LD50

SULFURIC ACID (7664-93-9)

Inhalation: 510 mg/m3 Inhalation Rat LC50; 510 mg/m3/2 hour Inhalation Rat LC50
Oral: 2140 mg/kg Oral Rat LD50

Acute Toxicity Level

METHYL ALCOHOL (67-56-1)

Slightly Toxic: dermal absorption, ingestion
Non Toxic: inhalation

SULFURIC ACID (7664-93-9)

Highly Toxic: inhalation
Toxic: ingestion

Irritation/Corrosivity

RTECS Irritation

The components of this material have been reviewed, and RTECS publishes the following endpoints:

METHYL ALCOHOL (67-56-1)

100 mg/24 hour Eyes Rabbit moderate; 40 mg Eyes Rabbit moderate; 20 mg/24 hour Skin Rabbit moderate

SULFURIC ACID (7664-93-9)

250 ug Eyes Rabbit severe; 5 mg/30 second(s) Eyes Rabbit severe

Local Effects

METHYL ALCOHOL (67-56-1)

Irritant: skin, eye

SULFURIC ACID (7664-93-9)

Corrosive: inhalation, skin, eye, ingestion

Target Organs

METHYL ALCOHOL (67-56-1)

nervous system

Carcinogenicity

Exposure to strong inorganic acid mists containing sulfuric acid has been shown to produce an excess risk of laryngeal and lung cancer in male workers of various operations, primarily pickling operations in the steel industry and in a U.S. Petrochemical plant.

Component Carcinogenicity

SULFURIC ACID (7664-93-9)

ACGIH: A2 - Suspected Human Carcinogen (contained in strong inorganic acid mists)
OSHA: Present
IARC: Monograph 54 [1992] (Occupational exposure to mists and vapours from sulfuric acid and other strong inorganic acids) (Group 1 (carcinogenic to humans))
Germany: Category 4 (no significant contribution to human cancer)
Netherlands: Present
Portugal: A2 - Suspected Human Carcinogen (present in strong inorganic acid mixtures)

Mutagenic

No information available for the mixture.

RTECS Mutagenic

The components of this material have been reviewed, and RTECS publishes data for one or more components.

Reproductive Effects

No information available for the mixture.

RTECS Reproductive Effects

The components of this material have been reviewed, and RTECS publishes data for one or more components.

Tumorigenic

No information available for the mixture.

RTECS Tumorigenic

The components of this material have been reviewed, and RTECS publishes data for one or more components.

Medical Conditions Aggravated by Exposure

eye disorders, kidney disorders, respiratory disorders, skin disorders and allergies

* * * Section 12 - Ecological Information* * *

Component Analysis - Aquatic Toxicity

METHYL ALCOHOL (67-56-1)

Fish: 96 Hr LC50 Pimephales promelas: 28200 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: >100 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 19500 - 20700 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 18 - 20 mL/L [static]; 96 Hr LC50 Lepomis macrochirus: 13500 - 17600 mg/L [flow-through]

SULFURIC ACID (7664-93-9)

Fish: 96 Hr LC50 Brachydanio rerio: >500 mg/L [static]
Invertebrate: 24 Hr EC50 Daphnia magna: 29 mg/L

Mobility

No information available for the mixture.

Persistence & Degradation

No information available for the mixture.

Bioaccumulative Potential

No information available for the mixture.

* * * Section 13 - Disposal Considerations* * *

Disposal Methods

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. D002.

Component Waste Numbers

METHYL ALCOHOL (67-56-1)

RCRA: waste number U154 (Ignitable waste)

* * * Section 14 - Transport Information* * *

US DOT Information

Shipping Name: Corrosive liquids, flammable, n.o.s. (Contains: METHYL ALCOHOL, SULFURIC ACID)
UN/NA #: UN2920 **Hazard Class:** 8 **Packing Group:** II
Required Label(s): 8, 3

TDG Information

Shipping Name: Corrosive liquid, flammable, n.o.s. (Contains: METHYL ALCOHOL, SULFURIC ACID)
UN #: UN2920 **Hazard Class:** 8 **Packing Group:** II
Required Label(s): 8, (3)

ADR Information

Shipping Name: Corrosive liquid, flammable, n.o.s. (Contains: METHYL ALCOHOL, SULFURIC ACID)
UN #: UN2920 **Hazard Class:** 8 **Packing Group:** II
Required Label(s): 8 + 3

RID Information

Shipping Name: Corrosive liquid, flammable, n.o.s. (Contains: METHYL ALCOHOL, SULFURIC ACID)
UN #: UN2920 **Hazard Class:** 8 **Packing Group:** II
Required Label(s): 8 + 3

IATA Information

Shipping Name: Corrosive liquid, flammable, n.o.s. (Contains: METHYL ALCOHOL, SULFURIC ACID)
UN #: UN2920 **Hazard Class:** 8 **Packing Group:** II
Required Label(s): 8, 3

ICAO Information

Shipping Name: Corrosive liquid, flammable, n.o.s. (Contains: METHYL ALCOHOL, SULFURIC ACID)
UN #: UN2920 **Hazard Class:** 8 **Packing Group:** II
Required Label(s): 8, 3

IMDG Information

Shipping Name: Corrosive liquid, flammable, n.o.s. (Contains: METHYL ALCOHOL, SULFURIC ACID)
UN #: UN2920 **Hazard Class:** 8 **Packing Group:** II
Required Label(s): 8, 3

* * * Section 15 - Regulatory Information* * *

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

METHYL ALCOHOL (67-56-1)

SARA 313: 1.0 % de minimis concentration
CERCLA: 5000 lb final RQ; 2270 kg final RQ

SULFURIC ACID (7664-93-9)

SARA 302/304: 1000 lb TPQ
1000 lb EPCRA RQ
SARA 313: 1.0 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)
CERCLA: 1000 lb final RQ; 454 kg final RQ

SARA 311/312

Acute Health: Yes **Chronic Health:** Yes **Fire:** Yes **Pressure:** No **Reactive:** No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component / EC Number	CAS	CA	MA	MN	NJ	PA	RI
METHYL ALCOHOL	67-56-1	Yes	Yes	Yes	Yes	Yes	Yes
SULFURIC ACID	7664-93-9	Yes	Yes	Yes	Yes	Yes	Yes

California Proposition 65

Not regulated under California Proposition 65

Canadian Regulations

Canada WHMIS

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

METHYL ALCOHOL (67-56-1)

1 %

SULFURIC ACID (7664-93-9)

1 %

WHMIS Classification

B3, D1B, D2A, E.

European Regulations

This preparation has been classified for the European Union according to Annex VI Directives 67/548/EEC and 99/45/EC.

Germany Water Classification

METHYL ALCOHOL (67-56-1)

ID Number 145, hazard class 1 - low hazard to waters

SULFURIC ACID (7664-93-9)

ID Number 182, hazard class 1 - low hazard to waters (footnote 8)

EU Marking and Labelling

Symbols

T Toxic
C Corrosive

Risk Phrases

R10 Flammable.
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R35 Causes severe burns.

Safety Phrases

S24/25 Avoid contact with skin and eyes.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S27 Take off immediately all contaminated clothing.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S38 In case of insufficient ventilation, wear suitable respiratory equipment.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S60 This material and its container must be disposed of as hazardous waste.

Japanese Regulations

Japan Designated Chemical Substances (PRTR Law)

No components of this material are subject to reporting requirements as specified by the "Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management" nor are they included in the "Pollutant Release and Transfer Register (PRTR)" of designated chemicals.

Japan Poisonous and Deleterious Substances

The following components are specified as poisonous and deleterious substances, and are regulated by Japan under the Poisonous and Deleterious Substances Control Law.

METHYL ALCOHOL (67-56-1)

Deleterious, 100%

SULFURIC ACID (7664-93-9)

Deleterious, 10%; Deleterious; Deleterious

Industrial Safety and Health Law - Flammable Materials

The following components are identified in Table 6-2 of the Enforcement Order of the Industrial Safety and Health Law which, if used in the workplace, require designation of an Operations Chief during confined space work and periodic machine inspections.

METHYL ALCOHOL (67-56-1)

Flammable substance

Industrial Safety and Health Law - Label Disclosure

This list contains those harmful substances present in this product whose names are to be indicated on a container label as specified by Article 18 of the Enforcement Order of the Industrial Safety and Health Law.

METHYL ALCOHOL (67-56-1)

0.3 % weight

Industrial Safety and Health Law - Organic Solvents

The following components are identified in Table 6-2 of the Enforcement Order of the Industrial Safety and Health Law which, if used in the workplace, require designation of an Operations Chief during confined space work and periodic machine inspections.

METHYL ALCOHOL (67-56-1)

Class 2

* * * Section 16 - Other Information* * *

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Full text of R phrases in Section 3

R11 Highly flammable.
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R35 Causes severe burns.
R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

Other Information

Limitations: The information and recommendations set forth in this MSDS are believed to be correct as of this date. Ventana Medical Systems, Inc. makes no warranty with respect to the content of this MSDS and disclaims all liability from reliance thereon.

MSDS Update: 1/4/2011

End of Sheet 00232046