



a member of the Roche Group

Material Safety Data Sheet

Material Name: Alcian Yellow Clarifier

MSDS ID: 00231802

*** 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: Alcian Yellow Clarifier

Product Number(s)

860-017, 1504070, 5279321001, 06038514001

Product Use

clinical/research

*** Section 2 - Hazards Identification ***

NFPA Ratings: Health: 2 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Preparation

This material is not classified.

EMERGENCY OVERVIEW

Color: colorless

Physical Form: liquid

Odor: faint odor, sulfur odor

Major Health Hazards: respiratory tract irritation, skin irritation, eye irritation, allergic reactions

POTENTIAL HEALTH EFFECTS

Inhalation

Short Term: irritation, allergic reactions, itching, difficulty breathing, wheezing, asthma

Long Term: allergic reactions

Skin

Short Term: irritation, allergic reactions

Long Term: irritation, allergic reactions

Eye

Short Term: irritation

Long Term: irritation

Ingestion

Short Term: gastrointestinal irritation, allergic reactions, nausea, vomiting

Long Term: allergic reactions

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)
Not Available	NON-HAZARDOUS	60-100	---	---
7681-57-4	SODIUM METABISULFITE 231-673-0	1-5	Xn Xi	R:22-31-41
7647-01-0	HYDROCHLORIC ACID 231-595-7	<1	T C	R:23-35

Material Safety Data Sheet

Material Name: Alcian Yellow Clarifier

MSDS ID: 00231802

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

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

Skin

Wash contaminated areas with soap and water. Thoroughly clean and dry contaminated clothing before reuse. Get medical attention, if needed.

Eyes

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

Ingestion

If a large amount is swallowed, get medical attention.

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

See Section 9 for Flammability Properties

Flammable Properties

Negligible fire hazard.

Extinguishing Media

Use extinguishing agents appropriate for surrounding fire.

Fire Fighting Measures

Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products.

Sensitivity to Mechanical Impact

Not sensitive

Sensitivity to Static Discharge

Not sensitive

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

Occupational Spill/Release

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 between 2 C and 8 C. See original container for storage recommendations. Keep separated from incompatible substances.

Material Safety Data Sheet

Material Name: Alcian Yellow Clarifier

MSDS ID: 00231802

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

Exposure Limits

SODIUM METABISULFITE (7681-57-4)

ACGIH:	5 mg/m3 TWA
NIOSH:	5 mg/m3 TWA
OSHA:	5 mg/m3 TWA
Belgium:	5 mg/m3 TWA
Denmark:	5 mg/m3 TWA
France:	5 mg/m3 VME
Greece:	5 mg/m3 TWA
Ireland:	5 mg/m3 TWA
Portugal:	5 mg/m3 TWA
Spain:	5 mg/m3 VLA-ED
United Kingdom:	15 mg/m3 STEL 5 mg/m3 TWA

HYDROCHLORIC ACID (7647-01-0)

ACGIH:	2 ppm Ceiling
NIOSH:	5 ppm Ceiling; 7 mg/m3 Ceiling 50 ppm IDLH
OSHA:	5 ppm Ceiling; 7 mg/m3 Ceiling 5 ppm Ceiling; 7 mg/m3 Ceiling
EEC:	5 ppm TWA; 8 mg/m3 TWA 10 ppm STEL; 15 mg/m3 STEL
Austria:	10 ppm STEL (8 X 5 min); 15 mg/m3 STEL (8 X 5 min) 5 ppm MAK; 8 mg/m3 MAK
Belgium:	10 ppm STEL; 15 mg/m3 STEL 5 ppm TWA; 8 mg/m3 TWA
Denmark:	5 ppm Ceiling; 7 mg/m3 Ceiling
Finland:	5 ppm STEL; 7.6 mg/m3 STEL (including solution)
France:	5 ppm VLCT (restrictive limit); 7.6 mg/m3 VLCT (restrictive limit)
Germany:	2 ppm TWA (exposure factor 2); 3 mg/m3 TWA (exposure factor 2) 2 ppm MAK; 3.0 mg/m3 MAK 4 ppm Peak; 6 mg/m3 Peak
Greece:	5 ppm STEL; 7 mg/m3 STEL 5 ppm TWA; 7 mg/m3 TWA
Ireland:	10 ppm STEL; 15 mg/m3 STEL 5 ppm TWA; 8 mg/m3 TWA
Italy:	5 ppm TWA; 8 mg/m3 TWA 10 ppm STEL; 15 mg/m3 STEL
Japan:	5 ppm Ceiling; 7.5 mg/m3 Ceiling
Netherlands:	15 mg/m3 STEL 8 mg/m3 TWA
Portugal:	2 ppm Ceiling
Spain:	10 ppm VLA-EC; 15 mg/m3 VLA-EC 5 ppm VLA-ED (indicative limit value); 7.6 mg/m3 VLA-ED (indicative limit value)
Sweden:	5 ppm CLV; 8 mg/m3 CLV
United Kingdom:	5 ppm STEL (aerosol mist and gas); 8 mg/m3 STEL (aerosol mist and gas) 1 ppm TWA (aerosol mist and gas); 2 mg/m3 TWA (aerosol mist and gas)

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.

Material Safety Data Sheet

Material Name: Alcian Yellow Clarifier

MSDS ID: 00231802

Protective Materials

latex, nitrile

Respiratory Protection

No respirator is required under normal conditions of use.

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

Physical State:	Liquid	Appearance:	Clear, colorless liquid
Color:	colorless	Physical Form:	liquid
Odor:	faint odor, sulfur odor	Odor Threshold:	Not available
pH:	1.5-3.5	Melting/Freezing Point:	Not available
Boiling Point:	Not available	Decomposition:	Not available
Flash Point:	not flammable	Evaporation Rate:	Not available
LEL:	Not available	UEL:	Not available
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

None reported.

Materials to Avoid

acids, oxidizing materials

Decomposition Products

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:

SODIUM METABISULFITE (7681-57-4)

Oral LD50 Rat 1131 mg/kg; Dermal LD50 Rat >2 g/kg

HYDROCHLORIC ACID (7647-01-0)

Inhalation LC50 Rat 3124 ppm 1 h; Oral LD50 Rat 700 mg/kg; Dermal LD50 Rabbit >5010 mg/kg

Material Safety Data Sheet

Material Name: Alcian Yellow Clarifier

MSDS ID: 00231802

RTECS Acute Toxicity (selected)

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

SODIUM METABISULFITE (7681-57-4)

Oral: 1131 mg/kg Oral Rat LD50

Skin: >1 gm/kg Skin Guinea pig LD50

HYDROCHLORIC ACID (7647-01-0)

Inhalation: 3124 ppm/1 hour Inhalation Rat LC50; 3700 ppm/30 minute(s) Inhalation Rat LC50; 60938 mg/m³/5 minute(s) Inhalation Rat LC50; 7004 mg/m³/30 minute(s) Inhalation Rat LC50; 45000 mg/m³/5 minute(s) Inhalation Rat LC50; 8300 mg/m³/30 minute(s) Inhalation Rat LC50

Acute Toxicity Level

SODIUM METABISULFITE (7681-57-4)

Moderately Toxic: ingestion.

HYDROCHLORIC ACID (7647-01-0)

Toxic: inhalation.

Moderately Toxic: ingestion.

Irritation/Corrosivity

RTECS Irritation

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

SODIUM METABISULFITE (7681-57-4)

100 mg/24 hour Eyes Rabbit mild; 500 mg Skin Rabbit

HYDROCHLORIC ACID (7647-01-0)

4 percent Skin Human mild; 5 mg/30 second(s) Eyes Rabbit mild

Local Effects

SODIUM METABISULFITE (7681-57-4)

Irritant: inhalation, skin, eye.

HYDROCHLORIC ACID (7647-01-0)

Corrosive: inhalation, skin, eye, ingestion.

Target Organs

SODIUM METABISULFITE (7681-57-4)

immune system (sensitizer).

Carcinogenicity

Component Carcinogenicity

SODIUM METABISULFITE (7681-57-4)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 54 [1992] (Group 3 (not classifiable))

Portugal: A4 - Not Classifiable as a Human Carcinogen

HYDROCHLORIC ACID (7647-01-0)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 54 [1992] (Group 3 (not classifiable))

Portugal: A4 - Not Classifiable as a Human Carcinogen

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

respiratory disorders

Material Safety Data Sheet

Material Name: Alcian Yellow Clarifier

MSDS ID: 00231802

*** Section 12 - Ecological Information ***

Component Analysis - Aquatic Toxicity

SODIUM METABISULFITE (7681-57-4)

Fish: 96 Hr LC50 *Lepomis macrochirus*: 32 mg/L [static]
Algae: 72 Hr EC50 *Desmodesmus subspicatus*: 48 mg/L; 96 Hr EC50 *Desmodesmus subspicatus*: 40 mg/L
Invertebrate: 24 Hr EC50 *Daphnia magna* Straus: 89 mg/L

HYDROCHLORIC ACID (7647-01-0)

Fish: 96 Hr LC50 *Gambusia affinis*: 282 mg/L [static]

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): D002.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

*** Section 14 - Transport Information ***

US DOT Information

Not regulated.

TDG Information

Not regulated.

ADR Information

Not regulated.

RID Information

Not regulated.

IATA Information

Not regulated.

ICAO Information

Not regulated.

IMDG Information

Not regulated.

*** 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.

HYDROCHLORIC ACID (7647-01-0)

SARA 302/304: 500 lb TPQ (gas only)
5000 lb EPCRA RQ (gas only)
SARA 313: 1.0 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)
CERCLA: 5000 lb final RQ; 2270 kg final RQ
OSHA (safety): 5000 lb TQ; 5000 lb TQ (anhydrous)

SARA 311/312

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

Material Safety Data Sheet

Material Name: Alcian Yellow Clarifier

MSDS ID: 00231802

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
SODIUM METABISULFITE	7681-57-4	Yes	Yes	Yes	Yes	Yes	Yes
HYDROCHLORIC ACID	7647-01-0	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:

SODIUM METABISULFITE (7681-57-4)

1 %

WHMIS Classification

D2A, D2B.

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

SODIUM METABISULFITE (7681-57-4)

Number 1169, hazard class 1 - low hazard to waters

HYDROCHLORIC ACID (7647-01-0)

Number 238, hazard class 1 - low hazard to waters (footnote 8)

EU Marking and Labelling

This material is not classified.

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.

HYDROCHLORIC ACID (7647-01-0)

Deleterious, 10; Deleterious; Deleterious

Industrial Safety and Health Law - Flammable Materials

No components of this material are specifically 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.

Industrial Safety and Health Law - Label Disclosure

No components of this material are specifically required to be indicated on a container label as specified by Article 18 of the Enforcement Order of the Industrial Safety and Health Law.

Industrial Safety and Health Law - Organic Solvents

No components of this material are specifically 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.

Material Safety Data Sheet

Material Name: Alcian Yellow Clarifier

MSDS ID: 00231802

*** 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

R22 Harmful if swallowed.
R23 Toxic by inhalation.
R31 Contact with acids liberates toxic gas.
R35 Causes severe burns.
R41 Risk of serious damage to eyes.

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.

"RTECS®" is a United States trademark owned and licensed under authority of the U.S. Government, by and through Symyx Software, Inc. Portions ©Copyright 2010, U.S. Government. All rights reserved.

MSDS Update: 10/14/2010

End of Sheet 00231802