1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name	:	Adogen 462 75%
Chemical Name	:	Quaternary Ammonium Compounds

1.2. Recommended use of the chemical and restrictions on use

Recommended use	:	Industrial Use
Non-recommended use(s)	:	None known.

1.3. Details of the supplier of the safety data sheet

Company	:	Evonik Corporation Consumer Specialties PO Box 1299 HOPEWELL VA 23860 USA
Telephone	:	+1 (0)804 541-8658
Telefax	:	+1 (0)804 541-2783
E-mail	:	productsafety-cs@evonik.com

1.4. Emergency telephone number

Emergency information	:	Non-Emergency Phone Number : (800) 732-561 In case of emergency call CHEMTREC 1-800-424-9300.

24 HOUR EMERGENCY TELEPHONE NUMBERS:
CHEMTREC - US & CANADA toll free: +1-800-424-9300
CHEMTREC - MEXICO toll free: 01-800-681-9531
CHEMTREC GLOBAL - Collect calls accepted: +1-703-527-3887

2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation 29CFR 1910.1200

Flammable liquids	Category 2	H225
Acute toxicity (Oral)	Category 4	H302
Skin irritation	Category 2	H315
Serious eye damage	Category 1	H318
Specific Target Organ Toxicity - Single exposure	Category 3	H336

2.2. Label elements

Symbol(s) :

Signal word : Danger

hazard statement : H225 - Highly flammable liquid and vapour.
H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H318 - Causes serious eye damage.
H336 - May cause drowsiness or dizziness.

Precautionary Statement (Prevention)	:	P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P264a - Wash skin thoroughly after handling. P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.
Precautionary Statement (Response)	:	P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. P313 - Get medical advice/ attention.
Precautionary Statement (Storage)	:	P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards

None known

3. Composition/information on ingredients

3.1. Substances

-

3.2. Mixtures

Classification according to Regulation 29CFR 1910.1200

Chemical Name	NJ Trade secrets CAS-No.	Concentration [%]	Classification
Methyl Chloride	- 74-87-3	< 0.0300%	H220, 1, Flam. Gas H351, 2, Carc. H373c, 2, STOT RE , Press. Gas
2-Propanol (Isopropanol)	- 67-63-0	20.0000% - 30.0000%	H225, 2, Flam. Liq. H336, 3, STOT SE H319, 2, Eye Dam. / Eye Irrit.
Quaternary Ammonium Compounds, DiCocoalkyl, Dimethyl, Chlorides	- 61789-77-3	70.0000% - 80.0000%	H302, 4, Acute Tox. H315, 2, Skin Corr. / Skin Irrit. H318, 1, Eye Dam. / Eye Irrit.

Texts of H phrases, see in Chapter 16

4. First aid measures

4.1. Description of first aid measures

General advice	:	
Inhalation	:	Remove individual from site of exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.
Skin contact	:	Immediately wash exposed area with soap and water for at least 15 minutes, then flush with water for at least 5 minutes. If reddening persists, or if open sores or blisters develop, see a physician. Remove contaminated clothing and launder before re-use.
Eye contact	:	Immediately flush with large amounts of water for at least 15 minutes, lifting upper and lower lids occasionally. Get medical attention immediately. If physician is not immediately available, continue flushing with water. Do not use chemical antidote.
Ingestion	:	Immediately drink two large glasses of water. Call a physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms : No special hints.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media : Dry chemical, water fog, alcohol foam

Unsuitable extinguishing media :

5.2. Special hazards arising from the substance or mixture

Carbon monoxide, nitrogen oxides, organic amines, hydrogen chloride, methyl chloride, and various unknown organic compounds.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

Water or foam may cause frothing which can be violent, especially if sprayed into containers of hot, burning liquid.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.
Ensure adequate ventilation.
Keep away sources of ignition.

6.2. Environmental precautions

Do not allow to enter drains or waterways
Do not discharge into the subsoil/soil.

6.3. Methods and material for containment and cleaning up

Take up with absorbent material (eg sand, kieselguhr, universal binder)
Dispose of absorbed material in accordance with the regulations.

7. Handling and storage

7.1. Precautions for safe handling

Handling :

no data available

Hygiene measures : No smoking, eating or drinking allowed when using this product. Wash hands before breaks and at end of work shift. Avoid Skin and Eye Contact.
Containers, even those that have been emptied, will retain product residue and vapors. Always obey hazard warnings and handle empty containers as if they were full.

General protective measures : Do not inhale gases/vapours/aerosols.
Avoid contact with eyes and skin

7.2. Conditions for safe storage, including any incompatibilities

Prevention of fire and explosion

Information : Vapors are heavier than air and may travel along the ground or be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors or other ignition sources at locations distant from material handling point. Never use cutting or welding torch on or near drum (even empty); product (or even residue) can ignite explosively. All five gallon pails and larger metal containers should be grounded. Care should be taken to avoid static discharge when transferring liquid to and from nonconductive containers.

Storage

Information : Containers should be grounded when pouring. Avoid free fall of liquid in excess of a few inches, unless adequate grounding is first established. Keep away from heat, sparks, and open flames. Based on the product flash point and vapor pressure, suitable storage should be provided in accordance with OSHA, 29 CFR 1910.106. Empty containers may contain product residue, including flammable or explosive vapors. Do not cut, puncture, or weld on or near container. All label warnings must be observed until the container has been cleaned or reconditioned.

Further information on storage conditions : Exercise caution when handling contents of the container. Wash with soap and water before eating, drinking, smoking, or using toilet facilities. Whenever possible, use mechanical means to move large and/or heavy objects to help prevent back injuries.

Protect from heat and direct sunlight
Keep container tightly closed in a cool, well-ventilated place

8. Exposure controls/personal protection

8.1. Control parameters

Exposure limit(s)

Components	CAS-No.	Statutory basis/list (Update)	Value type (Form of exposure; Expressed as)	Value	Short-term
2-Propanol (Isopropanol)	67-63-0	ACGIH (2007)	STEL	400 ppm	
		ACGIH (2007)	TWA	200 ppm	
		ACGIH (01 2005)	TWA	200 ppm	
		ACGIH (01 2005)	STEL	400 ppm	
Methyl Chloride	74-87-3	ACGIH (2007)	SKIN_DES		
	Can be absorbed through the skin.				
		ACGIH (2007)	STEL	100 ppm	
		ACGIH (2007)	TWA	50 ppm	
2-Propanol (Isopropanol)	67-63-0	OSHA Z1 (02 2006)	PEL	400 ppm 980 mg/m3	
Methyl Chloride	74-87-3	OSHA Z2 (02 2006)	TWA	100 ppm	
		OSHA Z2 (02 2006)	Ceiling	200 ppm	
		OSHA Z2 (02 2006)	MAX. CONC	300 ppm	

8.2. Exposure controls

Engineering controls

Appropriate engineering controls	:	Provide sufficient ventilation to maintain exposure below established exposure limits and to avoid effects of overexposure. This product may contain up to 300ppm residual methyl chloride which, during normal operations, is not expected to present a hazard to employees handling this product. Methyl chloride, however, may accumulate in the headspace of storage tanks, and in tank wagons and tank cars during transport and storage. Employees may be exposed, when manholes are opened, to high concentrations of methyl chloride unless adequate ventilation is provided or respiratory protection is used.

Personal protective equipment

Eye protection	:	Chemical splash proof goggles.
Hand protection	:	Wear protective gloves such as: Neoprene or Buna-N.
Body Protection	:	Wear a chemical resistant butyl rubber apron and other protective clothing, as deemed appropriate, to avoid skin contact with material.
Respiratory protection	:	A NIOSH/MSHA approved respirator with organic vapor canister or self-contained breathing apparatus is recommended if there is insufficient ventilation to maintain exposures below the PEL and/or level of comfort.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	liquid
Form	:	liquid
Colour	:	Colorless to Slightly Yellow
Odour	:	Alcohol
Odour Threshold	:	not measured
pH	:	ca. 6 - 9 Remarks: At 10%, in Isopropanol / Water solvent.
Melting point	:	
Boiling point	:	Boiling point/range 180 °F
Flash point	:	50 °F Method: Penskey-Marten CC
Evaporation rate	:	Slower than ether
Flammability	:	no data available
Upper Explosion/Ignition Limit	:	12.0 %(V)
Lower explosion limit	:	2.0 %(V)
Vapour pressure	:	43.89 mbar (68 °F)

Relative vapour density	:	Heavier than air
Relative density	:	no data available
Solubility	:	not measured
Water solubility	:	Dispersible
Partition coefficient (n-octanol/water)	:	not measured
Autoignition temperature	:	Not Established
Thermal decomposition	:	
Viscosity, kinematic	:	no data available
Viscosity, dynamic	:	
Explosive properties	:	not measured
Oxidising properties	:	not measured

9.2. Other information

Density	:	0.87 g/cm3
Metal corrosion	:	not measured
Ignition temperature	:	not measured

10. Stability and reactivity

10.1. Reactivity

see section "Possibility of hazardous reactions"

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

No

10.4. Conditions to avoid

Avoid heat, flame and contact with strong oxidizing agents.

10.5. Incompatible materials

Unknown

10.6. Hazardous decomposition products

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Acute toxicity estimate (ATEmix)

Dose: 657.89 mg/kg
Method: Calculation method

Acute toxicity (inhalation)	:	The results based on calculation as per chapter 3.1.3.6 Directive 1272/2008/EC are above the classification limits.
Acute toxicity (dermal)	:	LD50 Species: rabbit Dose: 3.0 Method: 4 Hour Skin Irritation and Corrosion Test Remarks: Not Corrosive, per DOT Skin Corrosive Test
Irritation/corrosion of the skin	:	This material is irritating to skin.
Serious eye damage/ eye irritation	:	Result: This material is irritating to the eyes. Species: rabbit Result: Risk of serious damage to eyes. Method: FDA guideline
Respiratory/skin sensitization	:	no data available
Repeated dose toxicity	:	no data available

CMR assessment

Carcinogenicity	:	no data available
Mutagenicity	:	no data available
Teratogenicity	:	no data available
Toxicity to reproduction	:	no data available
Carcinogenicity	:	Not listed by NTP, IARC, ACGIH, or OSHA as a carcinogen.
Specific Target Organ Toxicity - Single exposure	:	no data available
Specific Target Organ Toxicity - Repeated exposure	:	no data available
Aspiration hazard	:	No Aspiration toxicity classification

12. Ecological information

Ecotoxicology Assessment

Acute aquatic toxicity	:	no data available
Chronic aquatic toxicity	:	no data available

12.1. Toxicity

Aquatoxicity, fish :

no data available

Aquatoxicity, invertebrates :

Remarks: no data available

Aquatoxicity, algae / aquatic plants : no data available

Toxicity in microorganisms : no data available

chronic toxicity in fish : no data available

Chronic toxicity in aquatic Invertebrates : no data available

Toxicity in organisms which live in the soil : no data available

Toxicity in terrestrial plants : no data available

Toxicity to Above-Ground Organisms : no data available

12.2. Persistence and degradability

Photodegradation : no data available

Biological degradability : no data available

Physico-chemical removability : no data available

Biochemical Oxygen Demand (BOD) : no data available

Chemical Oxygen Demand (COD) : no data available

relation of BOD/COD : no data available

Dissolved organic carbon (DOC) : no data available

Adsorbed organic bound halogens (AOX) : no data available

Distribution among environmental compartments : no data available

12.3. Bioaccumulative potential

Bioaccumulation : no data available

12.4. Mobility in soil

Environmental distribution : no data available

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment : No data available

12.6. Other adverse effects

General Information : This product is toxic to fish: prevent run-off to sewers, streams or other bodies of water.

13. Disposal considerations

13.1. Waste treatment methods

Product : This product is an Ignitable waste (D001) under current RCRA regulations. Incineration in an authorized and permitted thermal treatment facility is recommended. Inquire of a permitted TSD facility for other options.

Contaminated packaging :

14. Transport information

D.O.T. Road/Rail

14.1	UN number:	UN 1219
14.2	UN proper shipping name:	ISOPROPANOL SOLUTION
14.3	Transport hazard class(es):	3
14.4	Packing group:	II
14.5	Environmental hazards (Marine pollutant):	--
14.6	Special precautions for user:	No

Air transport ICAO-TI/IATA-DGR

14.1.	UN number:	UN 1219
14.2.	UN proper shipping name:	Isopropanol solution
14.3.	Transport hazard class(es):	3
14.4.	Packing group:	II
14.5.	Environmental hazards:	--
14.6.	Special precautions for user:	No

Sea transport IMDG-Code/GGVSee (Germany)

14.1.	UN number:	UN 1219
14.2.	UN proper shipping name:	ISOPROPANOL SOLUTION
14.3.	Transport hazard class(es):	3
14.4.	Packing group:	II
14.5.	Environmental hazards (Marine pollutant):	--
14.6.	Special precautions for user:	Yes
	EmS:	F-E,S-D
	Stowage category B	

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: for transportapproval see regulatory information

15. Regulatory information

Canada : WHMIS CLASSIFICATION
Class B, Division 2, Flammable Liquid
Class D, Division 2, Subdivision B
This product contains component(s) that are listed on the WHMIS Ingredient Disclosure List.

Other regulations : CTFA: complies

SARA Title III Section : Fire Hazard

311/312 Hazard Categories: Acute Health Hazard

State Right to Know : No components subject to "Right-To-Know" legislation in the following States: NJ, PA, MA and RI

SARA 313: YES

TSCA lists : TSCA 8D - Yes

HMIS Ratings

Health:	3
Flammability:	3
Reactivity:	0
Personal Protection:	X

Notification status

Canada (DSL) : listed/registered or exempted
USA (TSCA) : listed/registered or exempted

16. Other information

List of references

Revision date : ---

Relevant H phrases from chapter 3

H220 : Extremely flammable gas.
H225 : Highly flammable liquid and vapour.
H302 : Harmful if swallowed.
H315 : Causes skin irritation.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.
This information and all further technical advice is based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer. Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used.

Legend

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADNR	European agreement concerning the international carriage of dangerous goods by inland waterways (ADN)
ASTM	American Society for Testing and Materials
ATP	Adaptation to Technical Progress
BCF	Bioconcentration factor
BetrSichV	German Ordinance on Industrial Safety and Health
c.c.	closed cup
CAS	Chemical Abstract Services
CESIO	European Committee of Organic Surfactants and their Intermediates
ChemG	German Chemicals Act
CMR	carcinogenic-mutagenic-toxic for reproduction
DIN	German Institute for Standardization
DMEL	Derived minimum effect level
DNEL	Derived no effect level
EINECS	European Inventory of Existing Commercial Chemical Substances
EC50	half maximal effective concentration
GefStoffV	German Ordinance on Hazardous Substances
GGVSEB	German ordinance for road, rail and inland waterway transportation of dangerous goods
GGVSee	German ordinance for sea transportation of dangerous goods
GLP	Good Laboratory Practice
GMO	Genetic Modified Organism
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
ISO	International Organization For Standardization
LOAEL	Lowest observed adverse effect level
LOEL	Lowest observed effect level
NOAEL	No observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
o. c.	open cup
OECD	Organisation for Economic Cooperation and Development
OEL	Occupational Exposure Limit
PBT	Persistent, bioaccumulative, toxic
PEC	Predicted effect concentration
PNEC	Predicted no effect concentration
REACH	REACH registration
RID	Convention concerning International Carriage by Rail
STOT	Specific Target Organ Toxicity
SVHC	Substances of Very High Concern
TA	Technical Instructions
TPR	Third Party Representative (Art. 4)
TRGS	Technical Rules for Hazardous Substances
VCI	German chemical industry association
vPvB	very persistent, very bioaccumulative
VOC	volatile organic compounds
VwVwS	German Administrative Regulation on the Classification of Substances Hazardous to Waters into Water Hazard Classes
WGK	Water Hazard Class
WHO	World Health Organization