

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY UNDERTAKING

Trade name	ARMOHIB 28
Chemical description/Application	Corrosion inhibitor.
Supplier	Akzo Nobel Surface Chemistry AB SE 444 85 Stenungsund SWEDEN Tel: +46 303 850 00 Fax: +46 303 813 06
Emergency telephone	+ 31 570679211 (Fax. +31 570679801) Akzo Nobel Chemicals, Deventer, NL

2. COMPOSITION/INFORMATION ON INGREDIENTS

This product is to be considered as a preparation according to EU-legislation.

Substance name	EU number	CAS number	Concentration	Symbols	Risk phrases
Tallowalkylamine ethoxylate propoxylate		68213-26-3	35-45 %	Xn	R-22, 52/53
Formaldehyde, reaction products with oleylamine	295-051-0	91782-77-3	30-40 %	C	R-22, 34
Prop-2-yn-1-ol	203-471-2	107-19-7	2-10 %	T ,N	R-10, 23/24/25, 34, 51/53
Butan-1-ol	200-751-6	71-36-3	5-10 %	Xn	R-10, 22, 37/38, 41, 67
Acetic acid	200-580-7	64-19-7	5-10 %	C	R-10, 35
Formaldehyde	200-001-8	50-00-0	<1 %	T	R-23/24/25, 34, 40, 43, 40
Water	231-791-2	7732-18-5	1-3 %	-	

Other information All components are registered in EINECS. For explanation of riskphrases, see section 16.

3. HAZARDS IDENTIFICATION

Flammable. Corrosive. Harmful.
Above the flash point an explosive mixture can be formed. Causes burns. Harmful by inhalation, in contact with skin and if swallowed. May cause sensitisation by skin contact. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

General Get medical attention.



Inhalation	Provide fresh air, warmth and rest, preferably in a comfortable upright sitting position. If breathing stops, provide artificial respiration. Obtain medical attention.
Skin	Remove contaminated clothing. Wash the skin with soap and water. Seek medical advice if symptoms appears.
Eyes	In case of contact with eyes, rinse immediately with 0.5% acetic acid in water for a few minutes, followed by rinsing with plenty of water for as long as possible. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention immediately. Continue to rinse during transport.
Ingestion	Only when conscious, rinse mouth, give plenty of water to drink (approx. 500 ml). Obtain medical attention immediately.

5. FIRE FIGHTING MEASURES

Extinguishing media	Water spray, fog or mist, alcohol resistant foam, powder, carbon dioxide.
Unsuitable extinguishing media	Waterjet, foam.
Special fire fighting procedures	Treat as an oil fire. Water spray may be ineffective unless used by experienced fire fighters. Wear self contained breathing apparatus.
Unusual fire hazards	Above the flash point an explosive mixture can be formed. If involved in a fire it will support combustion and may decompose to give off toxic materials. In case of fire and/or explosion do not breathe fumes.
Hazardous combustion products	No typical hazardous decomposition products known.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	For personal protection see Section 8.
Environmental precautions	Should not be allowed to enter drains or water courses. Dispose of this material and its container at hazardous or special waste collection point.
Methods for cleaning up	Contain spill with inert material. Place in container for disposal according to local regulations. Cover the remainder with inert absorbent (e.g. vermiculite) for disposal. In case of large spillages contact the local authority.

7. HANDLING AND STORAGE

Handling	The usual precautions for flammable liquids should be observed. When using do not eat, drink or smoke. Avoid spilling, skin and eye contact. No sparking tools should be used.
Storage	The usual precautions for flammable liquids should be observed. Keep away from heat, sparks and open flame. No smoking. Keep container tightly closed in a cool, well-ventilated place. For further information see product information sheet.
Other information	Do not use with concentrated hydrochloric acid.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits

Ingredient name	Exposure limit 8 hours	Short term exposure	References
Prop-2-yn-1-ol	1 ppm	3 ppm	OEL,s
Butan-1-ol		50 ppm	OEL,s
Formaldehyde	2 ppm	2 ppm	OEL,s
Acetic acid	10 ppm	15 ppm	OEL,s
Comments	OELs = EH40/2002 Occupational Exposure Limits 2002.		
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Engineering controls	Provide eyewash station. Provide shower facilities near the work place. Mechanical ventilation or local exhaust ventilation may be required. Keep solutions of 0.5% acetic acid in water at hand.
Personal protection	
Respiratory	If ventilation is insufficient, suitable respiratory protection must be provided. Wear full face mask supplied with: Combination filter ABEKP.
Hand	Use protective gloves made of: Neoprene or nitrile.
Eyes	Wear tightly fitting safety goggles.
Skin and body	Use suitable protective clothing as protection against splashing or contamination. Dry-clean contaminated clothes before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid.		
Colour	Brown.		
Odour	Mild, fatty, sweet.		
Boiling point/range (°C)	100	Pressure (kPa)	
Melting point/range (°C)	* < -10		
Flash point (°C)	47	Method	
Autoignition temperature (°C)	440		
Density (kg/m³)	1024	Temperature (°C)	15
Viscosity	116 mPas	Temperature (°C)	5
Solubility in water	Soluble.		
Other physical data	* Pour point.		

(These data are typical for the product and not a specification)

10. STABILITY AND REACTIVITY

Stability	Avoid elevated temperatures. Stable under recommended storage and handling conditions (see section 7).
Hazardous decomposition products	No typical hazardous decomposition products known.

11. TOXICOLOGICAL INFORMATION

Toxicological data	Acute toxicity. LD50. oral Rat. 950 mg/kg
Health effects	
Respiratory	The inhalation of aerosols may cause irritation of the respiratory tract. Contains solvent. Emits vapours during heating. High concentrations may cause stupor, dizziness, nausea, vomiting.
Skin	Causes burns. May cause transient redness and pain. Harmful in contact with skin. Repeated contact may cause skin sensitization.

Eyes	Causes burns. Risk of serious and permanent damage to eye.
Ingestion	Causes burns. Harmful if swallowed.
Component	Prop-2-yn-1-ol
Toxicological data	LD50. oral Rat. 50-70 mg/kg
	LD50. dermal Rabbit. 88 mg/kg
	LC50. 2 hours. Inhalation. Rat. 850 ppm
	LC50. 2 hours. Inhalation. Mouse. 2000 mg/m3

12. ECOLOGICAL INFORMATION

Ecotoxicological data

Ecotoxicology	The product contains a substance considered harmful to aquatic organisms.
Degradation	The product is considered not readily biodegradable. Primary biodegradation > 90%.

Component	Tallowalkylamine ethoxylate propoxylate
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Ecotoxicological data	LC50 96 hours fish 10-100 mg/l ¹⁾
	EC50 48 hours Daphnia 10-100 mg/l ¹⁾
Ecotoxicology	Harmful to aquatic organisms.
Degradation	Inherently biodegradable. Not readily biodegradable. <70% DOC, 28 days, Modified OECD Screening Test (OECD 301E). (The data are estimated from tests on similar products.)
Other information	¹⁾ The data are estimated from tests on similar products.

Component	Prop-2-yn-1-ol
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Ecotoxicological data	LC50 96 hours Pimapheles promelas (fish) 1,53 mg/l
Ecotoxicology	Toxic to aquatic organisms.
Partition coefficient (log Pow)	-0,38

13. DISPOSAL CONSIDERATIONS

Disposal methods	Incineration is recommended. Dispose of in accordance with local authority requirements. Nitrous gases may be formed by incineration.
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14. TRANSPORT INFORMATION

Proper shipping name FLAMMABLE LIQUID, CORROSIVE, N.O.S.(Butanol/amine derivate)

Land transport

UN number	2924	RID-class	3
ADR class	3	RID packing group	III
ADR packing group	III		
Classification code	FC		
CEFIC number	30GFC-III	Tremcard internal code	380

Sea transport



UN number	2924		
IMDG class	3(8)	EmS	F-E, S-C
IMDG packing group	III	Marine pollutant	No.
Air transport			
UN number	2924	Subsidiary risk	8
IATA/ICAO class	3	Packing group	III

15. REGULATORY INFORMATION

Substance name Tallowalkylamine ethoxylate propoxylate
Formaldehyde, reaction products with oleylamine
Prop-2-yn-1-ol
Formaldehyde

Symbols



Risk phrases R-10 Flammable.
R-34 Causes burns.
R-20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R-43 May cause sensitisation by skin contact.
R-52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases S-25 Avoid contact with eyes.
S-24 Avoid contact with skin.
S-26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S-28 After contact with skin, wash immediately with plenty of 0.5% acetic acid in water, followed by washing with soap and water.
S-36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S-45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S-57 Use appropriate containment to avoid environmental contamination.

EU directive Safety Data Sheet according to EC-directive 2001/58/EC

Water hazard classification WGK: 2 (Germany).

16. OTHER INFORMATION

This information only concerns the above mentioned product as supplied and may not be valid if used with other product(s) or in any process. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

Important changes were made in section 3,11,14,15

Composed by Kristina Sterky

Eva Cassel

Explanations to R-phrases in section 2 R-22 Harmful if swallowed. R-52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R-34 Causes burns. R-10 Flammable. R-23/24/25 Toxic by inhalation, in contact with skin and if swallowed. R-51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic

environment.R-37/38 Irritating to respiratory system and skin.R-41 Risk of serious damage to eye.R-67 Vapours may cause drowsiness and dizziness.R-35 Causes severe burns.R-40 Limited evidence of a carcinogenic effect.R-43 May cause sensitisation by skin contact.R-40 Limited evidence of a carcinogenic effect.

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