

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Chemetall**  
expect more<sup>+</sup>

## Ardrox 3968

Version: 4.0

Revision Date 08.05.2014

Print Date 19.05.2014

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Trade name : Ardrox 3968

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub- : Corrosion inhibitor  
stance/Mixture

Recommended restrictions : None known.  
on use

#### 1.3 Details of the supplier of the safety data sheet

Company : Chemetall Ltd  
Denbigh Road  
Bletchley Milton Keynes MK1 1PB

Telephone : 01908 649333  
Telefax : 01908 373939

Contact person product safety  
Telephone : +49(0)6971652832  
E-mail address : msds.de@chemetall.com

#### 1.4 Emergency telephone number

Emergency telephone : 01908 649333  
number

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Aspiration hazard, Category 1 H304: May be fatal if swallowed and enters air-  
ways.

##### Classification (67/548/EEC, 1999/45/EC)

Harmful R65: Harmful: may cause lung damage if swal-  
lowed.  
R66: Repeated exposure may cause skin dryness  
or cracking.

#### 2.2 Label elements


##### Labelling (REGULATION (EC) No 1272/2008)

**Ardrox 3968**

Version: 4.0

Revision Date 08.05.2014


Print Date 19.05.2014

Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H304 May be fatal if swallowed and enters airways.
	:	EUH066 Repeated exposure may cause skin dryness or cracking.
Precautionary statements	:	<b>Prevention:</b> P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P262 Do not get in eyes, on skin, or on clothing. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. <b>Response:</b> P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P308 + P313 IF exposed or concerned: Get medical advice/ attention. <b>Disposal:</b> P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:

- Hydrocarbons, C10 - C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics

**Labelling according to EC Directives (1999/45/EC)**

Hazard pictograms	:	
-------------------	---	---

**Ardrox 3968**

Version: 4.0

Revision Date 08.05.2014

Print Date 19.05.2014

	Harmful	
R-pharse(s)	: R65	Harmful: may cause lung damage if swallowed.
	R66	Repeated exposure may cause skin dryness or cracking.
S-pharse(s)	: S23	Do not breathe gas/fumes/vapour/spray.
	S24/25	Avoid contact with skin and eyes.
	S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
	S60	This material and its container must be disposed of as hazardous waste.
	S62	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Hazardous components which must be listed on the label:

- Hydrocarbons, C10 - C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics

**2.3 Other hazards**

The information required is contained in this Material Safety Data Sheet.

**SECTION 3: Composition/information on ingredients**

**3.1 Substances**

not applicable

**3.2 Mixtures**

Chemical nature : Mixture of organic solvents.

**Hazardous components**

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Hydrocarbons, C10 - C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics	918-481-9 01-2119457273-39	Xn; R65 R66	Asp. Tox. 1; H304	>= 65 - < 80
Distillates (petroleum), hydrotreated light naphthenic	64742-53-6 265-156-6 01-2119480375-34	Nota H, Nota L	Asp. Tox. 1; H304	>= 10 - < 25

**Ardrox 3968**

Version: 4.0

Revision Date 08.05.2014

Print Date 19.05.2014

3-Butoxypropan-2- ol,propylene glycol monobutyl ether	5131-66-8 225-878-4 01-2119475527-28	Xi; R36/38	Eye Irrit. 2; H319  Skin Irrit. 2; H315	>= 3 - < 5
---	--	------------	---	------------

For the full text of the R-phrases mentioned in this Section, see Section 16.  
For the full text of the H-Statements mentioned in this Section, see Section 16.  
For the full text of the Notas mentioned in this Section, see Section 16.

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

- General advice : First-aid crew: Ensure self-protection.  
Move out of dangerous area.  
Take off contaminated clothing and shoes immediately.
- If inhaled : Move to fresh air.  
If symptoms persist, call a physician.
- In case of skin contact : Wash off with soap and plenty of water.  
If symptoms persist, call a physician.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids.  
Consult a physician.
- If swallowed : Rinse mouth with water.  
Do NOT induce vomiting.  
Consult a physician.

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

- Symptoms : No information available.
- Risks : Aspiration hazard.  
May be fatal if swallowed and enters airways.  
Repeated exposure may cause skin dryness or cracking.

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

- Treatment : Treat symptomatically.  
For specialist advice physicians should contact the Poisons  
Information Service.

**Ardrox 3968**

Version: 4.0

Revision Date 08.05.2014

Print Date 19.05.2014

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

Suitable extinguishing media : Carbon dioxide (CO<sub>2</sub>)  
Dry powder  
Alcohol-resistant foam  
Water spray

Unsuitable extinguishing media : High volume water jet

**5.2 Special hazards arising from the substance or mixture**

Specific hazards during fire-fighting : May form toxic gases on heating or in case of fire.  
Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)

**5.3 Advice for firefighters**

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Further information : Use water spray to cool unopened containers.

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Wear personal protective equipment.

**6.2 Environmental precautions**

Environmental precautions : Do not flush into surface water or sanitary sewer system.  
Avoid subsoil penetration.

**6.3 Methods and materials for containment and cleaning up**

Methods for cleaning up : Ensure adequate ventilation.  
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

**6.4 Reference to other sections**

See chapter 8 and 13

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Chemetall**  
expect more<sup>+</sup>

## Ardrox 3968

Version: 4.0

Revision Date 08.05.2014

Print Date 19.05.2014

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.  
Have eye wash bottle or eye rinse ready at the work place.  
To avoid risks to man and the environment, comply with the instructions for use.

Advice on protection against fire and explosion : Keep away from sources of ignition - No smoking.  
Normal measures for preventive fire protection.  
Vapours may form explosive mixtures with air.

#### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a cool, well-ventilated place.  
Store in a place accessible by authorized persons only.  
To maintain product quality, do not store in heat or direct sunlight.

Storage temperature : < 40 °C

#### 7.3 Specific end use(s)

Specific use(s) : Corrosion inhibitor

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

##### DNEL/DMEL

Distillates (petroleum), hydrotreated light naphthenic : End Use: DNEL, Workers  
Exposure routes: Inhalation  
Potential health effects: Long-term local effects  
Value: 5.4 mg/m<sup>3</sup>

3-Butoxypropan-2-ol,propylene glycol monobutyl ether : End Use: DNEL, Industrial use, Workers  
Exposure routes: Skin contact  
Potential health effects: Long-term systemic effects  
Value: 44 mg/kg bw/d

End Use: DNEL, Workers  
Exposure routes: Inhalation

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Chemetall**  
expect more<sup>+</sup>

## Ardrox 3968

Version: 4.0

Revision Date 08.05.2014

Print Date 19.05.2014

Potential health effects: Long-term systemic effects  
Value: 270.5 mg/m<sup>3</sup>

### PNEC

3-Butoxypropan-2-  
ol,propylene glycol monobu-  
tyl ether

: Fresh water  
Value: 0.525 mg/l

Marine water  
Value: 0.0525 mg/l

Fresh water sediment  
Value: 2.36 mg/kg dry weight (d.w.)

Marine sediment  
Value: 0.236 mg/kg dry weight (d.w.)

Soil  
Value: 0.16 mg/kg

## 8.2 Exposure controls

### Engineering measures

Ensure adequate ventilation, especially in confined areas.

### Personal protective equipment

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.  
Recommended Filter type:  
A-P2

Hand protection : Nitrile rubber  
Rubber gloves  
Protective gloves complying with EN 374.  
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Eye protection : Eye protection (EN 166)  
Tightly fitting safety goggles

Skin and body protection : Chemical resistant protective clothing according to DIN EN 13034 (Type 6)

Hygiene measures : Take off contaminated clothing and shoes immediately.  
Keep away from food, drink and animal feedingstuffs.  
Wash hands before breaks and immediately after handling the

**Ardrox 3968**

Version: 4.0

Revision Date 08.05.2014

Print Date 19.05.2014

product.  
Avoid contact with skin and eyes.  
Do not breathe vapour.  
Do not breathe spray.

**Environmental exposure controls**

General advice : Do not flush into surface water or sanitary sewer system.  
Avoid subsoil penetration.

**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

Appearance : liquid  
Colour : amber  
Odour : hydrocarbon-like  
Flash point : 64 °C  
Boiling point/boiling range : > 150 °C  
Density : 0.81 g/cm<sup>3</sup>  
at 20 °C  
Water solubility : practically insoluble  
Viscosity, kinematic : < 7 mm<sup>2</sup>/S  
at 40 °C

**9.2 Other information**

Explosivity : Vapours may form explosive mixture with air.  
Directive 1999/13/EC on the limitation of emissions of volatile organic compounds : Value: 78.64 %  
Value: 637 g/l

**SECTION 10: Stability and reactivity**

**10.1 Reactivity**



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Chemetall**  
expect more<sup>+</sup>

## Ardrox 3968

Version: 4.0

Revision Date 08.05.2014

Print Date 19.05.2014

No dangerous reaction known under conditions of normal use.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Vapours may form explosive mixture with air.

### 10.4 Conditions to avoid

Conditions to avoid : Keep away from open flames, hot surfaces and sources of ignition.  
Strong sunlight for prolonged periods.

### 10.5 Incompatible materials

Materials to avoid : Strong oxidizing agents

### 10.6 Hazardous decomposition products

Risk of decomposition. : No decomposition if stored and applied as directed.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

##### Acute oral toxicity

Hydrocarbons, C10 - C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics : LD50: > 5,000 mg/kg  
Species: rat  
Method: OECD Test Guideline 401

Distillates (petroleum), hydrotreated light naphthenic : LD50: > 5,000 mg/kg  
Species: rat

3-Butoxypropan-2-ol,propylene glycol monobutyl ether : LD50: > 2,000 mg/kg  
Species: rat  
Method: OECD Test Guideline 423

##### Acute inhalation toxicity

Distillates (petroleum), hydrotreated light naphthenic : LC50: > 5.53 mg/l  
Exposure time: 4 h  
Species: rat

##### Acute dermal toxicity

Hydrocarbons, C10 - C13, n- : LD50: > 2,000 mg/kg

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Chemetall**  
expect more<sup>+</sup>

## Ardrox 3968

Version: 4.0

Revision Date 08.05.2014

Print Date 19.05.2014

alkanes, isoalkanes, cyclics,  
< 2 % aromatics

Species: rat  
Method: OECD Test Guideline 402

Distillates (petroleum), hy-  
drotreated light naphthenic

: LD50: > 5,000 mg/kg  
Species: rabbit

3-Butoxypropan-2-  
ol,propylene glycol monobu-  
tyl ether

: LD50: > 2,000 mg/kg  
Species: rat  
Method: OECD Test Guideline 402

### Skin corrosion/irritation

Skin irritation : May cause skin irritation in susceptible persons.

### Serious eye damage/eye irritation

Eye irritation : May cause eye irritation with susceptible persons.

### Respiratory or skin sensitisation

Sensitisation : No data available

Sensitisation  
3-Butoxypropan-2-  
ol,propylene glycol monobu-  
tyl ether

: Buehler Test  
Species: guinea pig  
No sensitising effects are known.

### Aspiration hazard

Aspiration toxicity : May be fatal if swallowed and enters airways.

### Toxicology Assessment

Repeated dose toxicity : Repeated exposure may cause skin dryness or cracking.

## SECTION 12: Ecological information

### 12.1 Toxicity

Ecotoxicology studies for the product are not available.

Toxicity to fish

Hydrocarbons, C10 - C13, n-  
alkanes, isoalkanes, cyclics,  
< 2 % aromatics

: > 1,000 mg/l  
Exposure time: 96 h  
Species: Oncorhynchus mykiss (rainbow trout)

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Chemetall**  
expect more<sup>+</sup>

## Ardrox 3968

Version: 4.0

Revision Date 08.05.2014

Print Date 19.05.2014

Method: OECD Test Guideline 203

Distillates (petroleum), hydrotreated light naphthenic : LC50: > 100 mg/l  
Exposure time: 96 h  
Species: Fish

3-Butoxypropan-2-ol,propylene glycol monobutyl ether : LC50: > 100 mg/l  
Exposure time: 96 h  
Species: Pimephales promelas (Fathead minnow)

Toxicity to daphnia and other aquatic invertebrates  
Hydrocarbons, C10 - C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics : > 1,000 mg/l  
Exposure time: 48 h  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 202

3-Butoxypropan-2-ol,propylene glycol monobutyl ether : static test EC50: > 1,000 mg/l  
Exposure time: 48 h  
Species: Daphnia magna (Water flea)

Toxicity to algae  
Hydrocarbons, C10 - C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics : > 1,000 mg/l  
Exposure time: 72 h  
Species: Pseudokirchneriella subcapitata (green algae)  
Method: OECD Test Guideline 201

NOEC: 1,000 mg/l  
Exposure time: 72 h  
Species: Pseudokirchneriella subcapitata (green algae)  
Method: OECD Test Guideline 201

Distillates (petroleum), hydrotreated light naphthenic : IC50: > 100 mg/l  
Exposure time: 48 h  
Species: Algae

### 12.2 Persistence and degradability

Biodegradability : No data available

### 12.3 Bioaccumulative potential

Bioaccumulation : Bioaccumulation is unlikely.

### 12.4 Mobility in soil

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Chemetall**  
expect more<sup>+</sup>

## Ardrox 3968

Version: 4.0

Revision Date 08.05.2014

Print Date 19.05.2014

Distribution among environmental compartments : No data available

### 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other adverse effects

Additional ecological information : slightly water endangering  
Do not flush into surface water or sanitary sewer system.  
Do not allow material to contaminate ground water system.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.  
Contaminated packaging : Dispose of as unused product.  
Waste Code : Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

## SECTION 14: Transport information

#### ADR

Not dangerous goods

#### IATA

Not dangerous goods

#### IMDG

Not dangerous goods

#### RID

Not dangerous goods

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Chemetall**  
expect more<sup>+</sup>

## Ardrox 3968

Version: 4.0

Revision Date 08.05.2014

Print Date 19.05.2014

- REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).
- Water contaminating class (Germany) : WGK 1 slightly water endangering  
VVWS A4
- Other regulations : The product is classified and labelled in accordance with EC directives or respective national laws.  
Regional or national implementations of GHS may not implement all hazard classes and categories.

### 15.2 Chemical Safety Assessment

For a mixture it is not mandatory to include an exposure scenario in the material safety data sheet. The necessary safety - related information is stated in the first 16 sections.

## SECTION 16: Other information

### Full text of R-phrases referred to under sections 2 and 3

- R36/38 Irritating to eyes and skin.  
R65 Harmful: may cause lung damage if swallowed.  
R66 Repeated exposure may cause skin dryness or cracking.

### Full text of H-Statements referred to under sections 2 and 3.

- EUH066 Repeated exposure may cause skin dryness or cracking.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.

### Full text of Notas referred to under section 3

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## Ardrox 3968

Version: 4.0

Revision Date 08.05.2014

Print Date 19.05.2014

- Nota H                      The classification and label shown for this substance applies to the dangerous property(ies) indicated by the risk phrase(s) in combination with the category(ies) of danger shown. The manufacturers, importers and downstream users of this substance shall be obliged to carry out an investigation to make themselves aware of the relevant and accessible data which exists for all other properties to classify and label the substance. The final label shall follow the requirements of section 7 of Annex VI of this Directive.
- Nota L                      The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346. This note applies only to certain complex oil derived substances in Annex I.

### Further information

The information provided is based on our current knowledge and experience and apply to the product as delivered. Regarding the product properties, these are not guaranteed. The delivery of this safety datasheet does not free the recipient of the product from his own responsibility to follow the relevant rules and regulations concerning this product.

| This data sheet contains changes from the previous version in section(s): 3