SAFETY DATA SHEET

ARDROX 1218

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY

PRODUCT NAME: ARDROX 1218

PART No.: A1218---

APPLICATIONS: Chemical process for removing corrosion from metal surfaces.

Label description - Inhibited acid; rust and scale remover.

SUPPLIER: Chemetall PLC
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2 COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS No.	CONTENTS	HEALTH (class)	RISK (R No.)
PHOSPHORIC ACID	7664-38-2	30-60 %	C	34

COMPOSITION COMMENTS: This product contains additional ingredients which are either unclassified or below the concentration requiring declaration under the CHIP Regulations. The product is water-based.

In the ingredient list above, exposure limit values exist for one or more ingredients. See Section 8 for details.

3 HAZARDS IDENTIFICATION

Causes burns.
Corrosive to eyes and skin.

4 FIRST AID MEASURES

INHALATION:

Not normally applicable to the product as supplied. If any ill effects occur while using the product, note the following. Move the exposed person to fresh air at once. Wear protective clothing and breathing apparatus if necessary. When unconscious, loosen tight clothing and position in secured sideposition. Perform artificial respiration if breathing has stopped. Provide rest, warmth and fresh air. Get medical attention if ill effects persist or are severe.

INGESTION:

Immediately rinse mouth and provide fresh air. Give the casualty small sips of water (up to a total of 100 ml) if he wants a drink but stop if he feels sick. Give milk instead of water if readily available. Do not make the casualty drink a lot of liquid at once as he may vomit which may be dangerous. Do not give victim anything to drink if he is unconscious. When unconscious, loosen tight clothing and position in secured sideposition. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Provide fresh air, warmth and rest, preferably in comfortable upright sitting position. Get medical attention immediately! Chemical burns must be treated by a physician.

SKIN:

Immediately remove contaminated clothing. Rinse the skin immediately with lots of water. Continue to rinse for at least 10 minutes. Get medical attention if irritation persists after washing or blistering occurs. Chemical burns must be treated by a physician.

EYES:

Promptly wash eyes with plenty of water while lifting the eye lids. Make sure to remove any contact lenses from the eyes before rinsing. Continue to rinse for at least 10 minutes. Beware of spreading the contamination to other adjacent areas. Get medical attention immediately. Continue to rinse. Chemical burns must be treated by a physician.

5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

This product is non-flammable.
TO BE USED:
Use extinguishing media appropriate for surrounding fire.
NOT TO BE USED:
None specific.

SPECIAL FIRE FIGHTING PROCEDURES:

Use special protective clothing. Regular protection may not be safe.

HAZARDOUS DECOMPOSITION PRODUCTS:

On heating to total decomposition, the following materials may be produced.
Oxides of phosphorus. Oxides of carbon. Oxides of nitrogen. Oxides of sulphur.

PROTECTIVE MEASURES IN FIRE:

On heating to total decomposition, toxic and corrosive gases may be produced, hence breathing apparatus should be worn in cases of fire.

6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS DURING SPILL:

Evacuate the area and keep unauthorised people away from the spillage. Wear any necessary protective clothing/equipment. See Section 8 for further details.

PRECAUTIONS TO PROTECT ENVIRONMENT:

Contain the spillage to prevent entry into drains or waterways. Notify the local authority if spillage of a large quantity into drains or waterways occurs.

SPILL CLEANUP METHODS: Small spillages may be washed away with plenty of water, taking care to avoid splashing. Larger spillages should be washed into the effluent treatment plant or absorbed with sand, earth or mineral granules etc. The contaminated absorbent should then be transferred to polythene containers and disposed of via a licensed waste disposal contractor. Wash residues away with plenty of water. Care should be taken to avoid splashing.
Neutralisation may be carried out with sodium carbonate (soda ash), bicarbonate or hydroxide (caustic soda). Neutralisation should be carried out slowly and carefully as the product is highly acidic and may react vigorously with the alkali.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS: Avoid contact with the skin, eyes and clothing. Avoid contact of the product with strong alkalis and carbonates. Always wear the appropriate personal protective equipment when using or handling this product. Eye wash facilities and emergency shower must be available when handling this product. Do not eat or drink while handling or using this product. Do not ingest the product. Wash hands after use.

STORAGE PRECAUTIONS: Store in a cool area. Keep away from strong alkalis and carbonates. Keep separate from food, feedstuffs, fertilizers and other sensitive material. Store and transport the product in its original container kept in an upright position. Keep containers closed when not in use. Containers of this product should be stored in a suitably designed or bunded area to minimise the risk of environmental pollution. Store between -10°C and 40°C.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

INGREDIENT NAME	CAS No	STD	LT EXP (8 hrs)	ST EXP (15 min)
PHOSPHORIC ACID	7664-38-2	OES.	No std.	2 mg/m3

INGREDIENT COMMENTS: OES = Occupational Exposure Standard (from EH40).

PROTECTIVE EQUIPMENT:

VENTILATION: General and/or local exhaust ventilation should be provided to keep operator exposure to the concentrated chemical and working solution below any recommended limits specified for the product ingredients.

RESPIRATORS: Under normal conditions of handling the product as supplied, respiratory protective equipment should not be required. The following comments may apply to the use of the working solution. Wear suitable respiratory protection if exposed to high levels of spray or mist. In most cases, a disposable mask suitable for non-toxic aqueous mists would be satisfactory.

PROTECTIVE GLOVES: Wear impermeable gloves complying with an approved standard (eg. BS 1651 or EN374). Suitable gloves would be those manufactured from PVC, butyl rubber or natural rubber.

EYE PROTECTION: Wear eye/face protection complying with an approved standard (eg. BS 2092 Chemical Grade or EN166-3). In most conditions, this would consist of goggles or face visor. Contact lenses should not be worn when handling or using this product.

OTHER PROTECTION: Wear chemical splash-resistant overalls and chemical and impact-resistant footwear. Wear a suitable impermeable apron (rubber, PVC, neoprene etc.) when handling the concentrated product. Safety showers and eyewash stations should be readily accessible near where this product is handled and used.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Slightly viscous liquid.		
COLOUR:	Clear. Colourless.		
ODOUR/TASTE:	Odourless or no characteristic odour.		
SOLUBILITY DESCRIPTION:	Miscible with water. Immiscible with hydrocarbons and halogenated hydrocarbons.		
BOILING POINT (°C):	105	**MELTING POINT (°C):**	<-10
SPECIFIC GRAVITY (Water=1):	1.26	**pH-VALUE,CONC:**	<1
pH-VALUE:	1.1	**CONCENTRATION (%,M):**	25.0%

10 STABILITY AND REACTIVITY

STABILITY: Under normal conditions of storage and use, this product will be stable.

CONDITIONS TO AVOID: No specific conditions to avoid known, other than those involving non-intentional contact with the materials specified in the section 'Materials to Avoid'

HAZARDOUS POLYMERIZATION:
Under normal conditions of storage and use, hazardous polymerisation of this product will not occur.

MATERIALS TO AVOID: This product will react with the following material(s) - alkaline materials and carbonates. The reaction may be vigorous or violent. Contact with carbonates liberates carbon dioxide, a heavy asphyxiant gas. The product will attack the following material(s) - many metals. The reaction will evolve hydrogen, a light extremely flammable gas. However, as this product is inhibited, attack will be significantly reduced while the inhibitor is maintained at its recommended level.

HAZARDOUS DECOMPOSITION PRODUCTS:

On heating to total decomposition, the following materials may be produced.
Oxides of phosphorus. Oxides of carbon. Oxides of nitrogen. Oxides of sulphur.

11 TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

No specific toxicological tests have been carried out on this product.

HEALTH HAZARDS, GENERAL:

Corrosive to eyes and skin. Causes burns. Inhalation of spray or mist from the working solution may irritate the respiratory system.

INHALATION: Not usually applicable under normal conditions of handling and use. Inhalation of mist or spray from the working solution may cause the following symptoms.
Irritation of the nasal tract and respiratory system.

INGESTION: May cause the following symptoms. Irritation of, or burns to, the mouth, throat and digestive system.

SKIN: Burns may occur.

EYES: Pain or irritation, watering, redness. Corneal damage. May cause chemical eye burns.

HEALTH WARNINGS: ACUTE HEALTH EFFECTS:
A single exposure may lead to irritation of, or burns to, the following - the eyes, skin, mouth, throat and digestive system.

CHRONIC HEALTH EFFECTS:
No specific chronic effects known.

12 ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL DATA:

Chemical Oxygen Demand (Chemical as supplied)	1000mg oxygen/litre

ENVIRONMENTAL HAZARDS:

Do not allow the product as supplied to enter local authority drains, waterways or sewers, or soil. Contact the local water authority for advice regarding dilute solutions and/or rinse waters. This product contains phosphate. Low concentrations in receiving waters may act as a plant nutrient or precipitate heavy metals. Although the acidity in receiving waters may be reduced by natural water hardness salts, the phosphate may persist indefinitely. Bioconcentration is not likely to occur.
Typical oxygen demand value(s) for this product or its solution can be found in Ecotoxicological Data above.

DEGRADABILITY: No specific biodegradability tests have been carried out on this product. Incomplete data available on the biodegradability of the ingredients.
This product contains the following ingredients/ingredient types that are classified as non biodegradable.

Generally, the inorganic constituents would not be expected to be biodegradable. Incomplete data available on the remainder of the ingredients.

ACUTE FISH TOXICITY: No specific aquatic toxicity tests have been carried out on this product. Incomplete information available on the toxicity of the product ingredients to aquatic organisms. Based on the information available for some of the ingredients, this product is expected to be as follows - of low toxicity to the aquatic environment (LC50/EC50/IC50=>100 mg/l). High concentrations in receiving waters will injure aquatic life by the effect on pH.

13 DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: Prospective users of this product should contact their local water authority to ascertain their requirements for waste arising from the use of this type of material. In some cases, dilution with water and pH adjustment (with eg. sodium carbonate/hydroxide or hydrochloric acid as appropriate), if necessary, may be acceptable prior to discharge to a foul sewer. Consideration should be given to the level of the following materials present in the effluent as these may require special treatment - oil, suspended solids and heavy metals. Alternatively, dispose of waste solutions via a licensed waste disposal contractor.

Bulk quantities of unused product and emptied containers should be recycled or disposed of via a licensed waste disposal contractor.
This material and its container must be disposed of as hazardous waste.

Disposal of this product, solutions and any by-products should at all times comply with the requirements of the Environmental Protection Act and its subsidiary regulations and any regional local authority requirements.

14 TRANSPORT INFORMATION

LABEL FOR CONVEYANCE:

ROAD:
UN No: 1805 **ADR CLASS No:** 8
ADR ITEM No: 17°(c)
PROPER SHIPPING NAME I: PHOSPHORIC ACID SOLUTION.

RAIL:
RAIL TRANSPORT CLASS No: 8

SEA:
UN SEA: 1805
SEA TRANSPORT CLASS No: 8 **IMDG Page No:** 8204
SEA PACK GR: III

MARINE POLLUTANT: No.

AIR:
UN AIR: 1805
AIR TRANSPORT CLASS No: 8 **AIR PACK GR:** III

15 REGULATORY INFORMATION

LABEL FOR SUPPLY:

CORROSIVE

RISK PHRASES:	R-34	Causes burns.
SAFETY PHRASES:	S-24/25	Avoid contact with skin and eyes.
	S-26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	S-27/28A	After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of 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-60	This material and its container must be disposed of as hazardous waste.

UK REGULATORY REFERENCES:

Health and Safety at Work Act 1974.
Control of Substances Hazardous to Health Regulations.
Chemicals (Hazard Information and Packaging for Supply) Regulations.
Environmental Protection Act.
Environmental Protection (Duty of Care) Regulations.
Control of Pollution (Special Waste) Regulations.
European Agreement Concerning The International Carriage of Dangerous Goods by Road (ADR).
Carriage of Dangerous Goods by Road and Rail (Classification, Packaging and Labelling) Regulations.

16 OTHER INFORMATION

USER NOTES: This Safety Data Sheet has been compiled for the product as supplied. In use, it may be dissolved in/diluted with water or other solvent, mixed with other chemicals/products or used as supplied. The hazards of the working solution will be dependent on its concentration and temperature and will need to be combined with those of any other chemicals/products involved, if applicable. See the appropriate Technical Data Sheet for further information.

It should be noted that this Safety Data Sheet only outlines the hazards of the product

specified and does not constitute a users workplace risk assessment as required by other health and safety legislation.

For further safety-related information, please contact:

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RECOMMENDED USES AND RESTRICTIONS:
This product is intended to be used industrially/commercially for the application described in Section 1. It should not be used for domestic purposes or for any other industrial/commercial use without the prior approval of Chemetall.

INFORMATION SOURCES: Health & Safety Executive Guidance Note EH40 - Occupational Exposure Limits.
Raw material suppliers Safety Data Sheets.
Croner's Dangerous Chemicals Emergency First Aid Guide.

REVISION COMMENTS: Updated into new software program. The following sections contain revised or additional information.
2. 4. 13. 15.

REVISION DATE: 24-05-00

REVISION No. /REPLACES SDS ISSUED:
3 / 26-11-99

SDS No.: 88/1184/1