SAFETY DATA SHEET

ARDROX 204

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY

PRODUCT NAME: ARDROX 204

PART No.: A204----

APPLICATIONS: Chemical process for paint removal.

Label description - Application paint remover.

SUPPLIER: Chemetall PLC
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Bletchley,
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2 COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS No.	CONTENTS	HEALTH (class)	RISK (R No.)
DICHLOROMETHANE	75-09-2	>60 %	Xn	40
METHANOL	67-56-1	10-30 %	T	23/24/25, 39/23/24/25
AROMATIC HYDROCARBON SOLVENT (161014)	64742-95-6	1-5 %	Xn	20, 36/37/38, 65
SODIUM CHROMATE	7775-11-3	<0.1 %	T, N	43, 49, 50/53

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

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

3 HAZARDS IDENTIFICATION

Harmful by inhalation, in contact with skin and if swallowed.
Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

Possible risk of irreversible effects.
Carcinogen Category 3.
The Category 3 Carcinogen (Xn; R40) classification for dichloromethane is based on animal tests. The manufacturers regard the carcinogenic risk to man to be insignificant.
Contains solvent(s) classified as R65 (Harmful : may cause lung damage if swallowed).
However, as the solvent content is less than 10%, the aspiration hazard does not apply to the complete product.
The product will have a defatting action on skin.
Prolonged or frequent skin contact may cause sensitisation.
Thermal decomposition produces toxic and corrosive gases.
The vapour is heavier than air and can accumulate in low lying areas.
Can become highly flammable in use.
Contains a substance or substances classified as dangerous for the environment (N).
Contains a substance or substances classified as very toxic to aquatic organisms (R50).
Contains a substance or substances that may cause long-term adverse effects in the aquatic environment (R53).

4 FIRST AID MEASURES

INHALATION:

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.

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. 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. Wear protective gloves if necessary. 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 as supplied. Although it contains flammable/combustible ingredients, it has no flash point below its boiling point. See Unusal Fire and Explosion Hazards.
TO BE USED:
Water spray, fog or mist. Alcohol resistant foam. Powder. Carbon dioxide (CO2).

NOT TO BE USED:

Water jets.

SPECIAL FIRE FIGHTING PROCEDURES:

Attempts should be made to prevent fire water run-off entering waterways. Water jets must not be used on burning product. Containers close to fire should be removed or cooled with water. Use special protective clothing. Regular protection may not be safe.

UNUSUAL FIRE & EXPLOSION HAZARDS:

This product contains flammable/combustible ingredients which may burn if involved in a fire. Dichloromethane vapour can form flammable mixtures with oxygen and it is possible to ignite dichloromethane/air mixtures under very limited conditions ie. limits of 13% to 22% by volume at 25°C and 1 bar and using a very high energy source eg. an electric arc. In use and exposed to the atmosphere, the dichloromethane in this product will evaporate faster than the methanol. Methanol is highly flammable. The vapour is heavier than air and may spread over a wide area leading to the risk of remote ignition and flashback.

When tested in a closed cup flash point apparatus, this product does not produce a distinct flash at a specific temperature. At around 30°C, the vapour will enhance the combustion of the ignition flame while it is held over the product but it does not burn. At around the boiling point (approximately 40°C-50°C), the vapour burns continuously once ignited by the ignition flame.

HAZARDOUS DECOMPOSITION PRODUCTS:

On heating to total decomposition, the following materials may be produced. Hydrogen chloride (HCl). Phosgene ($COCl_2$). Oxides of carbon. Oxides of nitrogen. Chromium oxide. Sodium oxide.

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. Extinguish all sources of ignition. Avoid sparks, flames, heat and smoking. Ventilate area well or wear breathing apparatus. 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: The contaminated absorbent should then be transferred to polythene containers, using non-sparking shovels eg. rubber or plastic and disposed of via a licensed waste disposal contractor. Spillages should be absorbed with sand, earth or mineral granules etc. Wash residues away with strong detergent/water solution.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS: Avoid contact with the skin, eyes and clothing. Avoid inhalation of vapour. Do not carry this product around the workplace in open containers. Use only under conditions of adequate ventilation, or use respiratory protection. Open containers carefully as volatile solvent may cause a pressure build up inside. In high ambient temperatures, particularly if the container is showing signs of expansion, cool before opening. Avoid contact of the product with strong oxidizing agents. Keep away from naked flames, sparks or any other sources of ignition. Do not use in pressurised containers containing zinc or aluminium. Always wear the appropriate personal protective equipment when using or handling this product. Eyewash facilities must be available when handling this product. Do not smoke, eat or drink while handling or using this product. Do not ingest the product. Wash hands after use.

STORAGE PRECAUTIONS: Store in a cool, well ventilated area. Keep away from oxidizing agents. Keep away from heat, sparks and open flame. 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 0°C and 30°C.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

INGREDIENT NAME	CAS No	STD	LT EXP (8 hrs)	ST EXP (15 min)
DICHLOROMETHANE	75-09-2	MEL.	100 ppm	300 ppm
METHANOL	67-56-1	OES.	200 ppm(Sk)	250 ppm(Sk)
AROMATIC HYDROCARBON SOLVENT (161014)	64742-95-6	SRL	150 mg/m3	No std.
SODIUM CHROMATE	7775-11-3	MEL.	0.05 mg/m3	No std.

INGREDIENT COMMENTS: MEL = Maximum Exposure Limit (from EH40).
OES = Occupational Exposure Standard (from EH40).
SRL = Supplier's Recommended Limit.
(Sk) = Can be absorbed through skin.

4th ingredient - The exposure limit values quoted for this ingredient are for chromium as Cr(VI).

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. Ventilation should be carried out by extracting at the lowest level. Exhaust ventilation equipment should be checked regularly. Ventilation also needs to be adequate to maintain the vapour concentration of the flammable/combustible ingredient(s) well below the lower explosive limit (LEL). In some cases, a flameproof exhaust ventilation motor may

be needed.

RESPIRATORS: Wear suitable respiratory protection if required eg. if local exhaust ventilation is inadequate or when using in a confined area. In most cases, a respirator with a filter cartridge specifically recommended for use with dichloromethane would be satisfactory. For extended exposure to high vapour levels, respiratory protective equipment fed from an external air source should be used. Wear breathing apparatus if entering tanks, pits or enclosed spaces.

PROTECTIVE GLOVES: Wear impermeable gloves complying with an approved standard (eg. BS 1651 or EN374). This product will rapidly soften and permeate most commonly-available glove materials. Short term protection can be obtained with gloves manufactured from PVC, butyl rubber, nitrile rubber or neoprene. Good protection has been reported when using high performance laminated polymer gloves (eg. 4H), either on their own or as a liner inside a conventional glove. Wash gloves thoroughly before removing.

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. Wash protective clothing thoroughly before removing. Wear anti-static footwear to an approved standard (eg. BS 5958). Eyewash stations (and possibly safety showers) should be readily accessible near where this product is handled and used.

Monitoring may be required to determine the effectiveness of the ventilation controls and/or the necessity to use respiratory protective equipment.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Viscous, single phase liquid. On prolonged standing, slight separation may occur.
COLOUR: Translucent. Yellow.
ODOUR/TASTE: Pungent. Characteristic.
The odour threshold for dichloromethane is approximately 200 ppm.
The odour threshold for methanol is approximately 5 ppm.
PHYSICAL DATA COMMENTS:
See Section 5 for information relating to the flash point/flammability of this product.
SOLUBILITY DESCRIPTION: When added to water, the product forms an unstable emulsion which separates on standing. Miscible with hydrocarbons and halogenated hydrocarbons.

BOILING POINT (°C):	40	**MELTING POINT (°C):**	<-10
SPECIFIC GRAVITY (Water=1):	1.16	**VAPOUR DENSITY (air=1):**	>1
pH-VALUE,CONC:	10.1	**VISCOSITY:**	~850 cP @ 23 °C

10 STABILITY AND REACTIVITY

STABILITY: Under normal conditions of storage and use, this product will be stable. However, slight separation may occur on prolonged standing.

CONDITIONS TO AVOID: Avoid conditions involving non-intentional contact with the materials specified in the section 'Materials to Avoid'. Avoid heat, flames and other sources of ignition. Certain mixtures in air can be ignited with high-intensity sources of heat eg. sparks, flames, welding or cutting operations. (See Section 5). Vapour in an oxygen rich atmosphere can form explosive mixtures. Welding or cutting should not be carried out on any vessel containing the solvent or vapour. Avoid allowing the product to evaporate excessively. As the volatile chlorinated solvent is lost, the residue will become flammable. (See Section 5).

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) - strong oxidizing agents. The reaction may be vigorous or violent. Avoid contact with the following material(s) - metallic powders, zinc, aluminium and magnesium, especially if finely divided or freshly exposed under pressure. The material(s) can catalyse the decomposition of the halogenated solvent(s) and generate gas. This could lead to a pressure build-up in closed systems.

HAZARDOUS DECOMPOSITION PRODUCTS:

On heating to total decomposition, the following materials may be produced. Hydrogen chloride (HCl). Phosgene (COCl2). Oxides of carbon. Oxides of nitrogen. Chromium oxide. Sodium oxide.

11 TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

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

HEALTH HAZARDS, GENERAL:

Harmful by inhalation and if swallowed. Harmful in contact with skin. Danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. Very irritating or corrosive to the following - eyes and skin. Skin contact may cause burns and blisters. Speed is essential in dealing with splashes. Only a few seconds contact may be sufficient to produce permanent damage. This product has a strong defatting action on the skin. Prolonged or frequent skin contact may lead to the risk of developing dermatitis. Prolonged or frequent skin contact may cause sensitisation. Vapour may have a narcotic effect in high concentrations. Dichloromethane is converted to carbon monoxide in the body, reducing the oxygen-carrying capacity of the blood and causing a raised carboxyhaemoglobin concentration in the blood.

INHALATION: Toxic: danger of very serious irreversible effects through inhalation. Inhalation of high concentrations of vapour may cause the following symptoms. Irritation of the nasal tract and respiratory system. Central nervous system depression.

Lightheadedness. Nausea. Vomiting. Headache. Large amounts may cause the following symptoms. Unconsciousness, possibly death.

INGESTION: Toxic: danger of very serious irreversible effects if swallowed. May cause the following symptoms. Irritation of, or burns to, the mouth, throat and digestive system. The following symptoms may also occur. Nausea. Vomiting. Diarrhoea. Central nervous system depression. Significant quantities may cause the following symptoms. Unconsciousness.

SKIN: Toxic: danger of very serious irreversible effects in contact with skin. Burns and blistering may occur. Product has a defatting effect on skin. Prolonged or frequent contact may lead to dryness and cracking. Continued exposure may lead to the risk of developing dermatitis. Skin absorption may lead to toxic effects. Symptoms may be similar to ingestion, although generally less severe.

EYES: Pain or irritation, watering, redness. Risk of serious damage to eye. 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, digestive system, nasal tract and respiratory system. Toxic effects may occur if ingested. Absorption through the skin may cause toxic effects. High concentrations of vapour may cause adverse central nervous system effects.

CHRONIC HEALTH EFFECTS:
Exposure to sublethal quantities over a prolonged period of time may lead to the following symptoms - skin dryness and cracking and the risk of developing dermatitis. Prolonged and excessive skin contact may lead to sensitisation. Repeated exposure to high levels may produce adverse effects on the liver and kidneys. The product contains methanol which may be considered a cumulative poison. Long term over-exposure may cause blindness. Danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

OTHER HEALTH EFFECTS: Carcinogen Category 3.

12 ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL DATA:
Chemical Oxygen Demand (COD) 575000mg oxygen/litre
(Chemical as supplied)

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. Dichloromethane does not persist in the atmosphere. It is naturally degraded to hydrogen chloride and carbon dioxide and is not classified as an ozone depleting solvent. The presence of large quantities of the solvent(s) in this product in surface waters could present a hazard in terms of oxygen depletion. This product contains chromium. Most chromium released into water will eventually be deposited in the sediment. Chromium is not expected to biomagnify in the aquatic food chain. There is no indication of biomagnification of chromium along the terrestial food chain (soil to plant to animal). Chromium has a very low consent limit at some water authorities. The product contains an ingredient or

ingredients classified as 'Dangerous for the Environment' (N). The product contains an ingredient or ingredients classified as 'Very toxic to aquatic organisms' and 'May cause long-term adverse effects in the aquatic environment' (R50/53).
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 biodegradable/readily biodegradable.
Methanol. Glycol ether(s).
This product contains the following ingredients/ingredient types that are classified as slowly/poorly biodegradable.
Thickener(s). Wax(es). Fatty acid salt(s). Dichloromethane (slowly biodegradable but highly volatile).
Biodegradability should be improved in the presence of adapted micro-organisms or under anaerobic conditions.
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 - harmful to aquatic organisms (LC50/EC50/IC50=10-100 mg/l).

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. This product and rinse waters should not be discharged untreated into local authority waterways or sewers. The prior agreement of the authority concerned should be sought if applicable. Consideration should be given to the level of the following materials present in the effluent as these may require special treatment - stripped paint residues. 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:	2810	**ADR CLASS No:**	6.1
ADR ITEM No:	25°(c)		
PROPER SHIPPING NAME I:	TOXIC LIQUID, ORGANIC, N.O.S. (Contains dichloromethane and methanol)		

RAIL:

RAIL TRANSPORT CLASS No:	6.1

SEA:

UN SEA:	2810		
SEA TRANSPORT CLASS No:	6.1	**IMDG Page No:**	6270-1
SEA PACK GR:	III	**MARINE POLLUTANT:**	No.

AIR:

UN AIR:	2810		
AIR TRANSPORT CLASS No:	6.1	**AIR PACK GR:**	III

15 REGULATORY INFORMATION

LABEL FOR SUPPLY:

RISK PHRASES:	R-20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
	R-30	Can become highly flammable in use.
	R-39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
	R-40	Possible risk of irreversible effects.
SAFETY PHRASES:	S-18	Handle and open container with care.
	S-23A	Do not breathe gas/fumes/vapour/spray.
	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-38	In case of insufficient ventilation, wear suitable respiratory

	equipment.
S-45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S-3/7/9	Keep container tightly closed, in a cool, well ventilated place.
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. 3. 4. 11. 12. 13. 15.
REVISION DATE:	02-06-00
REVISION No. /REPLACES SDS ISSUED:	3 / 17-02-99
SDS No.:	94/1495/4