

**SAFETY DATA SHEET****1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

Trade Name	Norchem RS 235
Product Synonyms:	Rust Stripper
Recommended Use:	Apply to remove rust and rust stains from pipes, plates, ships' bulks, stacks, derricks, roofs, tanks and wooden surfaces.
Company Identification:	Goldcrest International Singapore Pte Ltd 38 Tech Park Crescent Singapore 638098
Emergency phone number:	(65) 6862 6006 Tel (65) 6863 3665 Fax

**2. HAZARDS IDENTIFICATION****2.1 GHS Classification**

## PHYSICAL HAZARDS:

Corrosive to Metals - Category 1

## HEALTH HAZARDS:

Acute Toxicity (Oral) Category 5

Skin corrosion: Category 1

Serious eye damage/eye irritation – Category 1

## ENVIRONMENT

Nil

## 2.2 GHS Label elements, including precautionary statements

## PICTOGRAM



## SIGNAL WORD

Danger

## PHYSICAL HAZARDS:

H290 May be corrosive to metals

## HEALTH HAZARDS:

H303 May be harmful if swallowed

H314 Causes severe skin burns and eye damage

H318 Causes serious eye damage

## ENVIRONMENTAL HAZARDS

Nil

## Prevention

P234 Keep only in original packaging.

P260 Do not breathe dusts or mists. – if inhalable particles of dusts or mists may occur during use.

P264 Wash ...thoroughly after handling. ...

P280 Wear protective gloves/protective clothing/eye protection/face protection.

## Response

P390 Absorb spillage to prevent material damage.

P312 Call a POISON CENTER/doctor/...if you feel unwell.

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 [or shower].

P363 Wash contaminated clothing before reuse.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P310 Immediately call a POISON CENTER/doctor/...

P321 Specific treatment (see ... on this label) ... Reference to supplemental first aid instruction.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

#### Storage

P406 Store in a corrosion resistant/... container with a resistant inner liner.

P405 Store locked up.

#### Disposal

P501: Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical Identity	3.2 Common Name/Synonyms	3.3 CAS No.	% Range
Oxidane	Water, H <sub>2</sub> O	7732-18-5	< 50 %
Phosphoric Acid	-	7664-38-2	< 50 %
2-Butoxyethanol	-	111-76-2	< 1 %
Inhibitor	-	* Confidential Business Information	< 1 %

### 4. FIRST AID MEASURES

#### 4.1. Description of first aid measures

##### First-aid measures general

Check the vital functions. Unconscious: maintain adequate airway and respiration.

Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation.

Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised.

Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up).

Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain.

Depending on the victim's condition: Send to doctor/hospital.

##### First-aid measures after inhalation

If combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested.

Prostheses (false teeth) may block airway should be removed where possible, prior to initiating first aid procedures.

Apply artificial respiration if not breathing, preferably with a demand valve resuscitator or bag-valve mask device.

Perform CPR if necessary. Transport to hospital, or doctor, without delay.

##### First-aid measures after skin contact

When contact skin or hair: Immediately flush body and clothes with large amounts of water.

Quickly remove all contaminated clothing, including footwear. Wash skin and hair with running water.

Continue flushing with water until advised to stop by the Poisons Information Centre. Transport to hospital, or doctor

##### First-aid measures after eye contact

When in contact with the eyes: Immediately hold eyelids apart and flush the eye continuously with running water.

Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Continue flushing for at least 15 minutes.

Transport to hospital or doctor without delay. Removal of contact lenses only be undertaken by skilled personnel.

##### First-aid measures after ingestion

For advice, contact a Poisons Information Centre or a doctor at once. Urgent hospital treatment is likely needed.

If swallowed do NOT induce vomiting.

If vomiting occurs, lean patient forward or place on left side to maintain open airway and prevent aspiration.

Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or becoming unconscious.

Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.

Transport to hospital or doctor without delay

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

Inhalation Irritation of the nasal mucous membranes.

EXPOSURE TO HIGH CONCENTRATIONS: Respiratory difficulties.

Possible laryngeal spasm/oedema. Corrosion of the upper respiratory tract.

FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of pneumonia. Risk of lung oedema.

Skin contact Caustic burns/corrosion of the skin.

Eye contact Corrosion of the eye tissue. Permanent eye damage.

Ingestion Burns to the gastric/intestinal mucosa. Blood in vomit. Possible esophageal perforation. Shock.

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

Obtain medical assistance.

## 5. FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media

Suitable	Water spray or fog. Foam. Dry chemical powder. BCF (where regulations permit). Carbon dioxide.
Unsuitable	No unsuitable extinguishing media known.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	DIRECT FIRE HAZARD. Non combustible. INDIRECT FIRE HAZARD. Reactions involving a fire hazard: see "Reactivity Hazard". Not considered to be a significant fire risk. Acids may react with metals to produce hydrogen, highly flammable and explosive gas. Heating may cause expansion or decomposition leading to violent rupture of containers. May emit corrosive, poisonous fumes. May emit acrid smoke.
Explosion hazard	INDIRECT EXPLOSION HAZARD. Reactions with explosion hazards: see "Reactivity Hazard". Non combustible. Not considered to be a significant fire risk. Acids may react with metals to produce hydrogen, a highly flammable and explosive gas. Heating may cause expansion or decomposition leading to violent rupture of containers. May emit corrosive, poisonous fumes. May emit acrid smoke.
Reactivity	Decomposition may produce toxic fumes of: , hydrogen chloride Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions Decomposes on temperature rise: release toxic gases/vapours phosphorus oxides (POX) May emit corrosive, poisonous fumes. May emit acrid smoke. Reacts violently with (some) bases. Reacts exothermically with many compounds. Reacts with (some) metals: release of highly flammable gases/vapours (hydrogen).

### 5.3. Special protective actions for fire-fighters

Precautionary measures fire	Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	Dilute toxic gases with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.
Protection	Heat/fire exposure: compressed air/oxygen apparatus during firefighting

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Protective equipment	Gloves. Face-shield. Corrosion-proof suit. Large spills/in enclosed spaces: compressed air apparatus, gas-tight suit. Reactivity hazard: compressed air/oxygen apparatus, gas-tight suit.
Emergency procedures	Mark the danger area. No naked flames. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation. Large spills/in confined spaces: consider evacuation.

#### 6.1.2. For emergency responders

Protective equipment	Equip cleanup crew with proper protection.
Emergency procedures	Stop leak if safe to do so. Ventilate area.

### 6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

### 6.3. Methods and material for containment and cleaning up

For containment	Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the liquid spill. Hazardous reaction: measure explosive gas-air mixture. If reacting: dilute combustible/toxic gases/vapours. Take account of toxic/corrosive precipitation water. Heat exposure: dilute toxic gas/vapour with water spray.
Methods for cleaning up	Liquid spill: neutralize with soda (sodium carbonate). Neutralized substance: take up in absorbent material. Scoop absorbed substance into closing containers. Damaged/cooled tanks must be emptied. Carefully collect the spill/leftovers. Take collected spill to manufacturer/competent authority. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

#### Safe handling

Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area.

**WARNING:** To avoid violent reaction, ALWAYS add material to water and NEVER water to material.

Avoid smoking, naked lights or ignition sources. Avoid contact with incompatible materials.

When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use.

Avoid physical damage to containers. Always wash hands with soap and water after handling.

Work clothes should be laundered separately. Launder contaminated clothing before re-use.

Use good occupational work practice.

#### Other information

Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area.

Store away from incompatible materials and foodstuff containers.

Protect containers against physical damage and check regularly for leaks.

Observe manufacturer's storage and handling recommendations contained within this MSDS.

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

#### Suitable container

DO NOT use aluminium or galvanised containers

Check regularly for spills and leaks Lined metal can, lined metal pail/ can.

Plastic pail. Polyliner drum. Packing as recommended by manufacturer.

Check all containers are clearly labelled and free from leaks.

For low viscosity materials Drums and jerricans must be of the non-removable head type.

Where a can is to be used as an inner package, the can must have a screwed enclosure.

For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):

Removable head packaging; Cans with friction closures and low pressure tubes and cartridges may be used.

Where combination packages are used, and the inner packages are of glass, porcelain or stoneware,

there must be sufficient inert cushioning material in contact with inner and outer packages unless the outer

packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.

#### Storage incompatibility

Reacts vigorously with alkalis

Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

#### OCCUPATIONAL EXPOSURE LIMITS (OEL)

Chemical Identity	Limit Values
Phosphoric Acid	1 mg/m <sup>3</sup> TWA, 3 mg/m <sup>3</sup> STEL
2-Butoxyethanol	121 mg/m <sup>3</sup> PEL

### 8.2 Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure.

Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. An approved self contained breathing apparatus (SCBA) may be required in some situations. Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

Materials for protective clothing	GIVE GOOD RESISTANCE: natural rubber. nitrile rubber.
Hand protection	Gloves.
Eye protection	Face shield.
Skin and body protection	Corrosion-proof clothing.
Respiratory protection	Gas mask with filter type B. Gas mask with filter type E. High vapour/gas concentration: self-contained respirator.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

#### PHYSICAL PROPERTIES

Appearance:	Physical State	Liquid
	Colour	Clear
Odour		Pungent
Odour threshold;		Not available
pH (100%)		0.3
Melting Point:		Not available
Boiling Point:		105°C
Flash point:		Not available
Evaporation Rate:		Not available
Flammability (solid, gas);		Not applicable
Flammable Limits (Approximate volume % In air): LEL & UEL:		Not available
Vapour Pressure:		Not available
Vapour density:		Not available
Specific Gravity		1.3 ± 0.02
Solubility In Water		Soluble
Partition coefficient: n-octanol/water;		Not available
Auto-ignition temperature:		Not available
Decomposition Temperature:		Not available
Viscosity		Not available

### 9.2 Other information

Not available

## 10. STABILITY AND REACTIVITY

10.1 Reactivity	Decomposes on exposure to temperature rise: release highly toxic gases/vapours Reacts violently with (some) bases. Reacts exothermically with many compounds. Reacts with (strong) oxidizers: release of (highly) toxic gases/vapours. Reacts with (some) metals: release of highly flammable gases/vapours (hydrogen). Reacts violently with (some) bases: release of heat.
10.2 Chemical Stability	Contact with alkaline material liberates heat
10.3 Hazardous Reaction	No known Hazardous Reaction or Polymerization
10.4 Conditions To Avoid	Heat, open flames and high energy ignition sources.
10.5 Incompatible Materials	Strong Acids, Strong Bases, Oxidisers, Strong Reducing agent
10.6 Hazardous Decomposition Products	Under fire conditions: Phosphorus oxides, Carbon Monoxide; - can be released in case of fire, these can have a fire-promoting effect due to release of oxygen.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Toxicological information

	Ingredients		
	Phosphoric Acid 7664-38-2	2- Butoxyethanol 111-76-2	Inhibitor
Acute toxicity	Category 4	Category 4	Not Classified
Oral LD50 : mg/kg	rabbit 1530	rat 470	rat 4,800
Dermal LD50 mg/kg	rabbit > 1260	rabbit 220	No data available
Inhalation LC50 g/m3	rat 3/4h 25.5	rat 4h 450	No data available

Mixture : RS 235

Skin corrosion / irritation	Corrosion Category 1
Serious eye damage / eye irritation	Serious eye damage/eye irritation – Category 1
Sensitization	
Dermal	Not classified
Inhalation	Not classified
Germ cell mutagenicity;	Not classified
Carcinogenicity;	Not classified
Reproductive toxicity;	Not classified
STOT-single exposure;	Not classified
STOT-repeated exposure;	Not classified
Aspiration hazard	Not classified
Potential health effects	
Inhalation	May be harmful if inhaled.
Ingestion	Harmful if swallowed. Causes burns, May cause damage to organs
Skin	May be harmful if absorbed through skin. Causes severe skin burns.
Eyes	Causes serious eye damage

**12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

	Ingredients		
	Phosphoric Acid 7664-38-2	2- Butoxyethanol 111-76-2	Inhibitor
Acute	Not Classified	Not Classified	Not Classified
Chronic	Not Classified	Not Classified	Not Classified
Fish LC50 (h) mg/l	No data available	Oncorhynchus mykiss, 96 h 1474	No data available
Crustacea LC50 (h) mg/l	No data available	Daphnia magna, 48 h 1550	Daphnia 96 h 3333
Invertebrate EC50 (h) mg/l	No data available	No data available	No data available

**12.2 Persistence and degradability: Biodegradability**

No data available

**12.3 Bioaccumulative potential: Bioaccumulation**

No data available

**12.4 Mobility in soil: Distribution among environment compartments**

No data available

**12.5 Results of PBT and vPvB assessment**

No data available

**12.6 Other adverse effects: Additional ecological information**

Do not allow to enter soil, waterways or waste water channels. Do not release untreated into natural waters.

## 13. DISPOSAL CONSIDERATION

### 13.1 Disposal methods

Where possible retain label warnings and MSDS and observe all notices pertaining to the product.

Consult manufacturer for recycling options or consult local or regional waste management authority for disposal.

If disposal is necessary, do not dispose into sewage. Consult local, state and federal regulations.

For the safety of persons conducting disposal, recycling or reclamation activities, please refer to Section 8.

Disposed of by approved facilities or licence waste collector. Observe all local and national regulations.

Empty Container Warning (where applicable):

Empty containers may contain residue and can be dangerous. Return to supplier for reuse/ recycling if possible.

Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed

Decontaminate empty containers with 5% aqueous sodium hydroxide or soda ash, followed by water.

Treat and neutralise at an approved treatment plant. Neutralisation with soda-ash followed by:

burial in a land-fill specifically licenced to accept chemical wastes or Incineration in a licenced apparatus

Observe all label safeguards until containers are cleaned and destroyed.

## 14. TRANSPORT INFORMATION

	<i>ADR, RID, ADN</i>	<i>IMDG</i>	<i>IATA</i>
14.1 UN number			
	UN 3264	UN 3264	UN 3264
14.2 UN proper shipping name			
	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (AQUEOUS SOLUTION OF PHOSPHORIC ACID)	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (AQUEOUS SOLUTION OF PHOSPHORIC ACID)	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (AQUEOUS SOLUTION OF PHOSPHORIC ACID)
14.3 Transport hazard class(es)			
	8	8	8
14.4 Packaging group			
	III	III	III
14.5 Environmental hazards			
	Not Classified	Marine pollutant: No	Not Classified
14.6 Special precautions for user		No Information	
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code.			No information available

Hazard Label



## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations

	Ingredients		
Ingredients are on the inventory	Phosphoric Acid 7664-38-2	2- Butoxyethanol 111-76-2	Inhibitor
TSCA	No Info.	No Info.	No Info.
DSL	Yes	Yes	No Info.
EINECS	No Info.	No Info.	No Info.
AICS	Yes	Yes	No Info.
ISHL	Yes	Yes	No Info.
KECI	Yes	Yes	No Info.
IECSC	Yes	Yes	No Info.
NZIoC:	Yes	Yes	No Info.
PICCS	Yes	Yes	No Info.
NEA	Yes	No	No Info.

	Mixture : RS 235
Montreal Protocol	Not Listed
Stockholm Convention	Not Listed
Rotterdam Convention	Not Listed

## 16. OTHER INFORMATION

Goldcrest International Pte. Ltd. provides the information contained herein in good faith, but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Goldcrest International warrants that this product is of merchantable quality. The implied warranty of fitness for a purpose or uses described on the product's label or in any written instructions or materials distributed to the buyer by Goldcrest International and is hereby disclaimed should buyer use the products in a manner inconsistent with this uses or purposes described therein. In no event shall Goldcrest International Pte. Ltd. be liable for any consequential, exemplary, or incidental damages incurred by buyer even if it has been advised of the possibility of such damages.

Key or legend to abbreviations and acronyms used in the safety data sheet

PEL = Permissible Exposure Level determined by the Occupational Safety and Health Administration (OSHA)

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures OSHA

STEL = Short Term Exposure Limits are based on 15-minute exposures

TSCA	United States TSCA Inventory
DSL	Canadian Domestic Substances List
EINECS	European Inventory of Existing Commercial Chemical Substances
AICS	Australia Inventory of Chemical Substances
ISHL	Japan - Inventory of Chemical Substances
KECI	Korean Existing Chemicals Inventory
IECSC	Inventory of Existing Chemical Substances in China
NZIoC:	New Zealand. Inventory of Chemical Substances
PICCS	Philippines Inventory of Chemicals and Chemical Substances
NEA	Singapore - National Environment Agency

Date Issued: 8 Jan 2016

This Safety Data Sheet was prepared in accordance to United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS, 2013)

End of Safety Data Sheet