

**Ryton® R-4-200BL PPS Compound**

Version 1.2

Revision Date 2011-02-10

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**Product information**

Trade name : Ryton® R-4-200BL PPS Compound
Material : 1024040, 1024047, 1024046, 1024045, 1024044, 1024043,
1024042, 1037736, 1024041

Company : Chevron Phillips Chemical Company LP
Ryton® PPS and Xtel® PPS Alloys
10001 Six Pines Drive
The Woodlands, TX 77380

Local : Chevron Phillips Chemical International Inc.
3 Lockhart Road
Wanchai, Hong Kong

Product Information:
MSDS Requests: 852-29784899
Technical Information: 85-2-2-978-9800
Responsible Party: Product Safety Group
Email:msds@cpchem.com

Emergency telephone:**Health:**

866.442.9628 (North America)
1.832.813.4984 (International)

Transport:

North America: CHEMTREC 800.424.9300 or 703.527.3887
Asia: +800 CHEMCALL (+800 2436 2255) China: 0532.8388.9090
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Chemcare Asia: Tel: +65 6848 9048 - Mob: +65 8382 9188 - Fax: +65 6848
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Responsible Department : Product Safety and Toxicology Group
E-mail address : MSDS@CPChem.com
Website : www.CPChem.com

MEDICAL APPLICATION CAUTION: Do not use this Chevron Phillips Chemical Company LP material in medical applications involving permanent implantation in the human body or permanent contact with internal body fluids or tissues.

Do not use this Chevron Phillips Chemical Company LP material in medical applications involving brief or temporary implantation in the human body or contact with internal body fluids or tissues unless the material has been provided directly from Chevron Phillips Chemical Company LP under an agreement which expressly acknowledges the contemplated use.

Chevron Phillips Chemical Company LP makes no representation, promise, express warranty or implied warranty concerning the suitability of this material for use in implantation in the human body or in contact with internal body fluids or tissues.

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2. HAZARDS IDENTIFICATION**GHS Classification**

Not a dangerous substance according to Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

GHS-Labeling

Not a dangerous substance according to Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Components are encapsulated within the product matrix.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Molecular formula : Mixture

Chemical Name	CAS-No. / EINECS-No.	Concentration [wt%]
Polyphenylene Sulfide	26125-40-6	40 - 70
Fiberglass	65997-17-3	30 - 60
Carbon Black	1333-86-4	0,1 - 1

4. FIRST AID MEASURES

- If inhaled : Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion. If symptoms persist, call a physician.
- In case of skin contact : If the molten material gets on skin, quickly cool in water. Seek immediate medical attention. Do not try to peel the solidified material from the skin or use solvents or thinners to dissolve it.
- In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- If swallowed : Do not induce vomiting without medical advice.

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water. Water mist. Dry chemical. Carbon dioxide (CO₂). Foam. If possible, water should be applied as a spray from a fogging nozzle since this is a surface burning material. The application of high velocity water will spread the burning surface layer. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Specific hazards during fire fighting : Risks of ignition followed by flame propagation or secondary explosions can be caused by the accumulation of dust, e.g. on floors and ledges.
- Special protective : Use personal protective equipment. Wear self contained

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equipment for fire-fighters	breathing apparatus for fire fighting if necessary.
Further information	: This material will burn although it is not easily ignited.
Fire and explosion protection	: Treat as a solid that can burn. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Hazardous decomposition products	: Normal combustion forms carbon dioxide, water vapor and may produce carbon monoxide, other hydrocarbons and hydrocarbon oxidation products (ketones, aldehydes, organic acids) depending on temperature and air availability. Incomplete combustion can also produce formaldehyde. Sulfur oxides. Carbonyl Sulfide.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	: Sweep up to prevent slipping hazard. Avoid breathing dust.
Environmental precautions	: Do not contaminate surface water. Prevent product from entering drains.
Methods for cleaning up	: Clean up promptly by sweeping or vacuum.
Additional advice	: Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

7. HANDLING AND STORAGE**Handling**

Advice on safe handling	: Use good housekeeping for safe handling of the product. Keep out of water sources and sewers. Spilled pellets and powders may create a slipping hazard. Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary, but may not by themselves be sufficient.
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Advice on protection against fire and explosion	: Treat as a solid that can burn. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
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Storage

Requirements for storage areas and containers	: Keep in a dry place. Keep in a well-ventilated place.
Advice on common storage	: Do not store together with oxidizing and self-igniting products.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Ingredients with workplace control parameters****CN**

Ingredients	Basis	Value	Control parameters	Note
Nuisance Dust	OSHA Z1B	TWA	15 mg/m3	Total dust
	OSHA Z1B	TWA	5 mg/m3	(respirable dust)

Personal protective equipment

- Respiratory protection : No respiratory protection is normally required. If heated material generates vapor or fumes that are not adequately controlled by ventilation, wear an appropriate respirator. Use the following elements for air-purifying respirators: Organic Vapor and Formaldehyde. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection. Dust safety masks are recommended when the dust concentration is excessive.
- Eye protection : Use of safety glasses with side shields for solid handling is good industrial practice. If this material is heated, wear chemical goggles or safety glasses with side shields or a face shield. If there is potential for dust, use chemical goggles.
- Skin and body protection : At ambient temperatures use of clean and protective clothing is good industrial practice. If the material is heated or molten, wear thermally insulated, heat-resistant gloves that are able to withstand the temperature of the molten product. If this material is heated, wear insulated clothing to prevent skin contact if engineering controls or work practices are not adequate.
- Protective measures : Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties****Appearance**

- Form : Pellets
- Physical state : Solid
- Odor : Mild to no odor

Safety data

- Molecular formula : Mixture

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Density : 1,6 - 1,8 g/cm³
Water solubility : Negligible

10. STABILITY AND REACTIVITY

Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure

Possibility of hazardous reactions

Conditions to avoid : Avoid prolonged storage at elevated temperature.
Materials to avoid : Avoid contact with strong oxidizing agents.
Thermal decomposition : Low molecular weight hydrocarbons, alcohols, aldehydes, acids and ketones can be formed during thermal processing.

11. TOXICOLOGICAL INFORMATION**Ryton® R-4-200BL PPS Compound**

Acute oral toxicity : Presumed Not Toxic

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Acute inhalation toxicity : Presumed Not Toxic

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Acute dermal toxicity : Presumed Not Toxic

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Skin irritation : No skin irritation

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Eye irritation : No eye irritation

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Sensitization : Did not cause sensitization on laboratory animals.

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Further information : This product contains RYTON® PPS POLYMER. Subchronic feeding studies of RYTON® PPS Polymer at dietary levels of up to 5% caused no detrimental effects in laboratory animals. Molten polymer may cause severe thermal burns. The interior of molten masses may remain hot for sometime because of the low thermal conductivity of the polymer. Use care when

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disposing of, or handling such masses. The major thermal decomposition products of molded RYTON® PPS POLYMER are carbon monoxide, carbon dioxide, sulfur dioxide, and carbonyl sulfide. The latter two are the most significant producing mucous membrane irritation, nose bleeds and finally if exposure continues, respiratory paralysis and death.

Pigments containing carbon black may have been incorporated into this product. However, the pigments in this product are bound in a polymer matrix which severely limits its extractability, bioavailability and toxicity. None of these pigments is likely to cause adverse health effects under recommended conditions of use.

12. ECOLOGICAL INFORMATION**Ecotoxicity effects****Elimination information (persistence and degradability)**

Bioaccumulation : Does not bioaccumulate.

Mobility : The product is insoluble and sinks in water.

Biodegradability : This material is not expected to be readily biodegradable.

Further information on ecology

Additional ecological information : This material is not expected to be harmful to aquatic organisms.
Fish or birds may eat pellets which may obstruct their digestive tracts.

13. DISPOSAL CONSIDERATIONS

The information in this MSDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

14. TRANSPORT INFORMATION

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the MSDS and the bill of lading.

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USDOT

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IMO / IMDG

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IATA

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

ADR

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

RID

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

15. REGULATORY INFORMATION**National legislation****Notification status**

Europe REACH	: On the inventory, or in compliance with the inventory
United States of America US.TSCA	: On the inventory, or in compliance with the inventory
Canada DSL	: On the inventory, or in compliance with the inventory
Australia AICS	: On the inventory, or in compliance with the inventory
New Zealand NZIoC	: On the inventory, or in compliance with the inventory
Japan ENCS	: On the inventory, or in compliance with the inventory
Korea KECI	: On the inventory, or in compliance with the inventory
Philippines PICCS	: On the inventory, or in compliance with the inventory
China IECSC	: On the inventory, or in compliance with the inventory

16. OTHER INFORMATION**Further information**

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this MSDS pertains only to the product as shipped.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

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Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LOAEL	Lowest Observed Adverse Effect Level
AICS	Australia, Inventory of Chemical Substances	NFPA	National Fire Protection Agency
DSL	Canada, Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
NDSL	Canada, Non-Domestic Substances List	NTP	National Toxicology Program
CNS	Central Nervous System	NZIoC	New Zealand Inventory of Chemicals
CAS	Chemical Abstract Service	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration	NOEC	No Observed Effect Concentration
EC50	Effective Concentration 50%	OSHA	Occupational Safety & Health Administration
EINECS	European Inventory of Existing Chemical Substances	PEL	Permissible Exposure Limit
MAK	Germany Maximum Concentration Values	PICCS	Philippines Inventory of Commercial Chemical Substances
GHS	Globally Harmonized System	PRNT	Presumed Not Toxic
>=	Greater Than or Equal To	RCRA	Resource Conservation Recovery Act
IC50	Inhibition Concentration 50%	STEL	Short-term Exposure Limit
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act.
IECSC	Inventory of Existing Chemical Substances in China	TLV	Threshold Limit Value
ENCS	Japan, Inventory of Existing and New Chemical Substances	TWA	Time Weighted Average
KECI	Korea, Existing Chemical Inventory	TSCA	Toxic Substance Control Act
<=	Less Than or Equal To	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
LC50	Lethal Concentration 50%	WHMIS	Workplace Hazardous Materials Information System
LD50	Lethal Dose 50%		