

COGNIS KBS FR CAULK

Chemwatch Material Safety Data Sheet
Issue Date: 18-Aug-2008
NC317TCP

CHEMWATCH 4732-12
Version No:2.0
CD 2008/2 Page 1 of 12

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

COGNIS KBS FR CAULK

PRODUCT USE

Used according to manufacturer' s directions. Fire protection.

SUPPLIER

Company: KBS Passive Fire Pty Ltd
Address:
PO Box 21096
Coquitlam
BC, V3E 3P9
CANADA
Telephone: +1 604 941 1001
Fax: +1 604 941 1029

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

POISONS SCHEDULE

None

RISK

Risk Codes	Risk Phrases
R45(1)	May cause CANCER.
R52/53	Harmful to aquatic organisms may cause long- term adverse effects in the aquatic environment.

SAFETY

Safety Codes	Safety Phrases
S01	Keep locked up.
S38	In case of insufficient ventilation wear suitable respiratory equipment.
S53	Avoid exposure - obtain special instructions before use.
S40	To clean the floor and all objects contaminated by this material, use water.
S35	This material and its container must be disposed of in a safe way.
S13	Keep away from food, drink and animal feeding stuffs.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
paraffinic distillate, heavy, solvent- refined (mild)	64741-88-4	<1
tricresyl phosphate	1330-78-5	<1
triphenyl phosphate	115-86-6	<1

continued...

COGNIS KBS FR CAULK

Chemwatch Material Safety Data Sheet
Issue Date: 18-Aug-2008
NC317TCP

CHEMWATCH 4732-12
Version No:2.0
CD 2008/2 Page 2 of 12

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

cresyldiphenyl phosphate	26444-49-5	<1
phosphoric acid, bis(methylphenyl) phenyl ester		<1

Section 4 - FIRST AID MEASURES

SWALLOWED

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

EYE

- If this product comes in contact with eyes:
- Wash out immediately with water.
 - If irritation continues, seek medical attention.
 - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

- If skin or hair contact occurs:
- Flush skin and hair with running water (and soap if available).
 - Seek medical attention in event of irritation.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

FIRE FIGHTING

- Use water delivered as a fine spray to control fire and cool adjacent area.
- Do not approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD

- Non combustible.
- Not considered a significant fire risk, however containers may burn.

FIRE INCOMPATIBILITY

None known.

HAZCHEM: None

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COGNIS KBS FR CAULK

Chemwatch Material Safety Data Sheet
Issue Date: 18-Aug-2008
NC317TCP

CHEMWATCH 4732-12
Version No:2.0
CD 2008/2 Page 3 of 12

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Wear impervious gloves and safety goggles.
- Trowel up/scrape up.
- Place spilled material in clean, dry, sealed container.
- Flush spill area with water.

MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by all means available, spillage from entering drains or water courses.
- Consider evacuation (or protect in place).
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Stop leak if safe to do so.
- Water spray or fog may be used to disperse / absorb vapour.
- Contain or absorb spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
- If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- 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.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

- Polyethylene or polypropylene container.
- Packing as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

continued...

COGNIS KBS FR CAULK

Chemwatch Material Safety Data Sheet
Issue Date: 18-Aug-2008
NC317TCP

CHEMWATCH 4732-12
Version No:2.0
CD 2008/2 Page 4 of 12
Section 7 - HANDLING AND STORAGE

STORAGE INCOMPATIBILITY

None known.

STORAGE REQUIREMENTS

- 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 storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA mg/m ³
Australia Exposure Standards	triphenyl phosphate (Triphenyl phosphate)	3

The following materials had no OELs on our records

- paraffinic distillate, heavy, solvent- refined (mild): CAS:64741- 88- 4
- tricresyl phosphate: CAS:1330- 78- 5
- cresyldiphenyl phosphate: CAS:26444- 49- 5

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m ³)	Revised IDLH Value (ppm)
triphenyl phosphate	1, 000	

MATERIAL DATA

Not available. Refer to individual constituents.

INGREDIENT DATA

CRESYLDIPHENYL PHOSPHATE:

TRICRESYL PHOSPHATE:

No exposure limits set by NOHSC or ACGIH.

PARAFFINIC DISTILLATE, HEAVY, SOLVENT-REFINED (MILD):

WARNING: This substance is classified by the NOHSC as Category 2 Probable Human Carcinogen.

TRICRESYL PHOSPHATE:

Exposure to TOCP causes central and peripheral neuropathies with paralysis of the distal muscles of the lower and upper extremities.

Air concentrations between 0.55 and 1.7 mg/m³ have been associated with polyneuritis, reduced cholinesterase activity has been related to air concentrations of 0.27 - > 3 mg/m³.

CEL TWA: 0.1 mg/m³ [compare OEL TWA (Poland): 0.1 mg/m³]

TRIPHENYL PHOSPHATE:

Triphenyl phosphate (TPP) is a cholinesterase inhibitor in animals although no evidence of neurological disease or other abnormalities have been identified in workers exposed to TPP at a time-weighted average of 3.5 mg/m³ for an average of 7.4 years.

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COGNIS KBS FR CAULK

Chemwatch Material Safety Data Sheet
Issue Date: 18-Aug-2008
NC317TCP

CHEMWATCH 4732-12
Version No:2.0
CD 2008/2 Page 5 of 12

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTION

EYE

- Safety glasses with side shields
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

Wear general protective gloves, eg. light weight rubber gloves.

OTHER

- Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.
 - Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filter-type respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. A respirator affording higher levels of protection may be substituted.
 - Emergency deluge showers and eyewash fountains, supplied with potable water, should be located near, within sight of, and on the same level with locations where direct exposure is likely.
 - Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with suitable labels. For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood.
 - Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.
- No special equipment needed when handling small quantities.

OTHERWISE:

- Overalls.
- Barrier cream.
- Eyewash unit.

RESPIRATOR

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Breathing Zone Level ppm (volume)	Maximum Protection Factor	Half- face Respirator	Full- Face Respirator
1000	10	A- AUS P	-
1000	50	-	A- AUS P
5000	50	Airline *	-
5000	100	-	A- 2 P
10000	100	-	A- 3 P
	100+		Airline**

continued...

COGNIS KBS FR CAULK

Chemwatch Material Safety Data Sheet
Issue Date: 18-Aug-2008
NC317TCP

CHEMWATCH 4732-12
Version No:2.0
CD 2008/2 Page 6 of 12

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

* - Continuous Flow ** - Continuous-flow or positive pressure demand.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

- Employees exposed to confirmed human carcinogens should be authorized to do so by the employer, and work in a regulated area.
- Work should be undertaken in an isolated system such as a "glove-box" . Employees should wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.
- Within regulated areas, the carcinogen should be stored in sealed containers, or enclosed in a closed system, including piping systems, with any sample ports or openings closed while the carcinogens are contained within.
- Open-vessel systems are prohibited.
- Each operation should be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation.
- Exhaust air should not be discharged to regulated areas, non-regulated areas or the external environment unless decontaminated. Clean make-up air should be introduced in sufficient volume to maintain correct operation of the local exhaust system.
- For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.
- Except for outdoor systems, regulated areas should be maintained under negative pressure (with respect to non-regulated areas).
- Local exhaust ventilation requires make-up air be supplied in equal volumes to replaced air.
- Laboratory hoods must be designed and maintained so as to draw air inward at an average linear face velocity of 150 feet/ min. with a minimum of 125 feet/ min. Design and construction of the fume hood requires that insertion of any portion of the employees body, other than hands and arms, be disallowed.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Grey paste with a characteristic odour; mixes with water.

PHYSICAL PROPERTIES

Mixes with water.

Molecular Weight: Not Applicable
Melting Range (°C): Not Available
Solubility in water (g/L): Miscible
pH (1% solution): Not Available
Volatile Component (%vol): Not Available
Relative Vapour Density (air=1): Not Applicable
Lower Explosive Limit (%): Not Available
Autoignition Temp (°C): Not Available
State: Non Slump Paste

Boiling Range (°C): Not Available
Specific Gravity (water= 1): 1.5@20C
pH (as supplied): 5- 8
Vapour Pressure (kPa): Not Available
Evaporation Rate: Not Available
Flash Point (°C): Not Available

Upper Explosive Limit (%): Not Available
Decomposition Temp (°C): Not Available
Viscosity: Not Available

continued...

COGNIS KBS FR CAULK

Chemwatch Material Safety Data Sheet
Issue Date: 18-Aug-2008
NC317TCP

CHEMWATCH 4732-12
Version No:2.0
CD 2008/2 Page 7 of 12

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Product is considered stable and hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (eg. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

EYE

Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).

SKIN

The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

INHALED

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

CHRONIC HEALTH EFFECTS

There is sufficient evidence to suggest that this material directly causes cancer in humans.

Repeated application of mildly-treated solvent refined oils (naphthenic and paraffinic) can cause skin tumours, but after severe solvent-refining they do not.

TOXICITY AND IRRITATION

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (None) LD50: >2000 mg/kg

IRRITATION

PARAFFINIC DISTILLATE, HEAVY, SOLVENT-REFINED (MILD):

No significant acute toxicological data identified in literature search.

WARNING: This substance has been classified by the IARC as Group 1: CARCINOGENIC TO HUMANS.

TRICRESYL PHOSPHATE:

continued...

COGNIS KBS FR CAULK

Chemwatch Material Safety Data Sheet

Issue Date: 18-Aug-2008

NC317TCP

CHEMWATCH 4732-12

Version No:2.0

CD 2008/2 Page 8 of 12

Section 11 - TOXICOLOGICAL INFORMATION

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (human) TDLo: 70 mg/kg/14d

Oral (rat) LD50: 5190 mg/kg

The material may be irritating to the eye, with prolonged contact causing inflammation.

Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

IRRITATION

Skin (rabbit): 500 mg - Mild

Eye (rabbit): 500 mg/24h - Mild

TRIPHENYL PHOSPHATE:

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (human) LDLo: 50 mg/kg*

Oral (rat) LD50: 3500 mg/kg [Genium]*

Oral (rat) LDLo: 3000 mg/kg*

IRRITATION

Nil Reported

CRESYLDIPHENYL PHOSPHATE:

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (rat) LD50: 6400 mg/kg

Oral (mouse) LD50: 6400- 12800 mg/kg

Oral (g.pig) LD50: 1600- 3200 mg/kg

IRRITATION

Nil Reported

MATERIAL

CARCINOGEN

REPROTOXIN

SENSITISER

SKIN

paraffinic
distillate,
heavy, solvent-
refined (mild)

IARC:3

CARCINOGEN

IARC: International Agency for Research on Cancer (IARC) Carcinogens: paraffinic distillate, heavy, solvent-refined (mild) Category: The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing.

Section 12 - ECOLOGICAL INFORMATION

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

Refer to data for ingredients, which follows:

TRICRESYL PHOSPHATE:

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

for tricresyl phosphate (TCP):

Environmental fate:

Because of its low water solubility and high adsorption to particulates, TCP is rapidly

continued...

COGNIS KBS FR CAULK

Chemwatch Material Safety Data Sheet
Issue Date: 18-Aug-2008
NC317TCP

CHEMWATCH 4732-12
Version No:2.0
CD 2008/2 Page 9 of 12

Section 12 - ECOLOGICAL INFORMATION

adsorbed onto river or lake sediment and soil. The ortho isomer is degraded slightly faster than the meta or para isomers. TCP is readily biodegraded in sewage sludge with a half-life of 7.5 h, the degradation within 24 h being up to 99%. The major metabolite extracted with ethyl ether from the aqueous phase was identified as p-hydroxybenzoic acid. Abiotic degradation is slower with a half-life of 96 days. Bioconcentration factors (BCF) of 165-2768 were measured for several fish species in the laboratory using radiolabelled TCP. The radioactivity was lost rapidly on cessation of exposure, depuration half-lives ranging between 25.8 and 90 h.

The clearance of tri-m-cresyl phosphate has been shown to be biphasic, with higher rates of clearance in the first 6 days after transfer to clean water, especially for rainbow trout. The clearance rate constants for rainbow trout were about 50% more than those for fathead minnows

The uptake and translocation of tri-p-cresyl phosphate by soybean plants has been studied; the initial concentration in soil being 10 mg per kg. Approximately 70% of the compound had disappeared from the soil within 90 days (when the plants were harvested). At that time, the amount per plant was 34 ug (0.17% of the applied TCP). Of this total plant content, 74% was found in the stem, 24% in the leaves, and 2% in the pods. The seeds contained no detectable tri-p-cresyl phosphate.

For alkyl-aryl and triaryl phosphates, increasing the number and size of substituent groups on the phenyl molecule decreases the biodegradability. The degradation pathway for TCP most probably involves stepwise enzymatic hydrolysis to orthophosphate and phenolic moieties. The phenol would then be expected to undergo further degradation. p-Cresol is oxidized to p-hydroxybenzoic acid by a species of *Pseudomonas*.

Ecotoxicity:

Owing to the high biodegradation rate of TCP in aqueous environment, it is not considered to affect aquatic organisms adversely.

Freshwater algae are relatively sensitive to TCP, the 50% growth inhibitory concentration ranging from 1.5 to 5.0 mg/litre. Among fish species, the rainbow trout is adversely affected by TCP concentrations below 1 mg/litre (0.3-0.9 mg/litre), with sign of chronic poisoning, but the tidewater silverside is more resistant (LC50 is 8700 mg/litre). TCP does not inhibit cholinesterase activity in fish or frogs, but it has a synergistic effect on organophosphorus insecticide activity.

For alkyl-aryl and triaryl phosphates, increasing the number and size of substituent groups on the phenyl molecule decreases the biodegradability.

DO NOT discharge into sewer or waterways.

The principal problems of phosphate contamination of the environment relates to eutrophication processes in lakes and ponds. Phosphorus is an essential plant nutrient and is usually the limiting nutrient for blue-green algae. A lake undergoing eutrophication shows a rapid growth of algae in surface waters. Planktonic algae cause turbidity and flotation films. Shore algae cause ugly muddying, films and damage to reeds. Decay of these algae causes oxygen depletion in the deep water and shallow water near the shore. The process is self-perpetuating because anoxic conditions at the sediment/water interface causes the release of more adsorbed phosphates from the sediment. The growth of algae produces undesirable effects on the treatment of water for drinking purposes, on fisheries, and on the use of lakes for recreational purposes.

The material is classified as an ecotoxin* because the Fish LC50 (96 hours) is less than or equal to 0.1 mg/l

* Classification of Substances as Ecotoxic (Dangerous to the Environment)

Appendix 8, Table 1

Compiler's Guide for the Preparation of International Chemical Safety Cards: 1993
Commission of the European Communities.

BCF: 928-1589

Toxicity Fish: LC50(96)7000-8700ppm

TRIPHENYL PHOSPHATE:

Fish LC50 (96hr.) (mg/l): 95- 290

Organophosphorus pesticides are relatively non-persistent in the environment with half-

continued...

COGNIS KBS FR CAULK

Chemwatch Material Safety Data Sheet

Issue Date: 18-Aug-2008

NC317TCP

CHEMWATCH 4732-12

Version No:2.0

CD 2008/2 Page 10 of 12

Section 12 - ECOLOGICAL INFORMATION

lives ranging from hours to several weeks or months. Only rarely are they found in crops beyond the growing season during which they are applied. Chemical or photochemical mechanisms may produce a leaving group which is easily degraded. As a rule these compounds do not represent a serious problem as contaminants of soil and water. Breakdown products are usually non-toxic being composed of low-molecular weight, volatile molecules that are easily degraded and utilised by micro-organisms.

Being esters they are also susceptible to hydrolysis. Most organophosphorus pesticides are stable to acid pHs but under alkaline conditions hydrolysis is rapid with the breakdown rate increasing 10-fold for each pH unit above 7. An increase of 10 deg. C of temperature will increase the hydrolysis rate approximately 4-fold. When these compounds are present in the soil their disappearance is affected by their interaction with the physical characteristics and water content of the soil, and the microflora present.

In certain types of soil strong binding may make them unavailable for biological decomposition. In such soils even running water produces little movement and thus minimal contamination of water supplies. Less tightly bound substances are similarly unlikely to produce substantial contamination because of rapid breakdown. Metallic ions in the soil interact with organophosphorus pesticides through hydrogen linkage whilst increased organic matter facilitates further binding.

In general only minute amounts of pesticide residue and their breakdown products are found in natural water systems. In soil however there is a greater likelihood of the presence and buildup of toxic residues.

DO NOT discharge into sewer or waterways.

Half-life (hr) H₂O surface water: 31.2

Half-life (hr) sediment: 48-192

CRESYLDIPHENYL PHOSPHATE:

Kow 31622

log Kow 3.83

BCF 1548.82

The principal problems of phosphate contamination of the environment relates to eutrophication processes in lakes and ponds. Phosphorus is an essential plant nutrient and is usually the limiting nutrient for blue-green algae. A lake undergoing eutrophication shows a rapid growth of algae in surface waters. Planktonic algae cause turbidity and flotation films. Shore algae cause ugly muddying, films and damage to reeds. Decay of these algae causes oxygen depletion in the deep water and shallow water near the shore. The process is self-perpetuating because anoxic conditions at the sediment/water interface causes the release of more adsorbed phosphates from the sediment. The growth of algae produces undesirable effects on the treatment of water for drinking purposes, on fisheries, and on the use of lakes for recreational purposes.

Section 13 - DISPOSAL CONSIDERATIONS

- Containers may still present a chemical hazard/ danger when empty.
 - Return to supplier for reuse/ recycling if possible.
- Otherwise:
- If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
 - Where possible retain label warnings and MSDS and observe all notices pertaining to the product.
 - Recycle wherever possible or consult manufacturer for recycling options.
 - Consult State Land Waste Management Authority for disposal.
 - Bury residue in an authorised landfill.
 - Recycle containers if possible, or dispose of in an authorised landfill.

continued...

COGNIS KBS FR CAULK

Chemwatch Material Safety Data Sheet

Issue Date: 18-Aug-2008

NC317TCP

CHEMWATCH 4732-12

Version No:2.0

CD 2008/2 Page 11 of 12

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM: None

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:UN, IATA,
IMDG

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE: None

REGULATIONS

Cognis KBS FR Caulk (CAS: None):
No regulations applicable

paraffinic distillate, heavy, solvent-refined (mild) (CAS: 64741-88-4) is found on the following regulatory lists;

- Australia Hazardous Substances
- Australia High Volume Industrial Chemical List (HVICL)
- Australia Inventory of Chemical Substances (AICS)
- International Agency for Research on Cancer (IARC) Carcinogens
- OECD Representative List of High Production Volume (HPV) Chemicals

tricresyl phosphate (CAS: 1330-78-5) is found on the following regulatory lists;

- Australia Inventory of Chemical Substances (AICS)
- GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships
- IMO IBC Code Chapter 17: Summary of minimum requirements
- IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk
- IMO Provisional Categorization of Liquid Substances - List 1: Pure or technically pure products
- International Council of Chemical Associations (ICCA) - High Production Volume List
- OECD Representative List of High Production Volume (HPV) Chemicals
- OSPAR Substances removed from the List of Substances of Possible Concern

triphenyl phosphate (CAS: 115-86-6) is found on the following regulatory lists;

- Australia Exposure Standards
- Australia Hazardous Substances
- Australia Inventory of Chemical Substances (AICS)
- International Council of Chemical Associations (ICCA) - High Production Volume List
- OECD Representative List of High Production Volume (HPV) Chemicals
- OSPAR List of Chemicals for Priority Action

cresyldiphenyl phosphate (CAS: 26444-49-5) is found on the following regulatory lists;

- Australia Inventory of Chemical Substances (AICS)
- GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships
- IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk
- OECD Representative List of High Production Volume (HPV) Chemicals

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

Substance	CAS	Suggested codes
tricresyl phosphate	1330- 78- 5	N; R50/53
triphenyl phosphate	115- 86- 6	N; R50/53
cresyldiphenyl phosphate	26444- 49- 5	N; R51/53

EXPOSURE STANDARD FOR MIXTURES

"Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration:

Composite Exposure Standard for Mixture (TWA) :0.1 mg/m³.

Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone.

If the breathing zone concentration of ANY of the components listed below is exceeded,

continued...

COGNIS KBS FR CAULK

Chemwatch Material Safety Data Sheet
Issue Date: 18-Aug-2008
NC317TCP

CHEMWATCH 4732-12
Version No:2.0
CD 2008/2 Page 12 of 12
Section 16 - OTHER INFORMATION

"Worst Case" considerations deem the individual to be overexposed.

Component	Breathing Zone ppm	Breathing Zone mg/m ³	Mixture Conc (%)
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Component	Breathing Zone (mg/m ³)	Mixture Conc (%)
tricresyl phosphate	0.1000	1.0

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references.

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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