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NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME

FULL PUBLIC REPORT

Pigment Red 3092C

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Director
Chemicals Notification and Assessment

FULL PUBLIC REPORT

Pigment Red 3092C

1. APPLICANT

CIBA-GEIGY Australia Limited of 140 Bungaree Road PENDLE HILL NSW 2145 has submitted a standard notification statement in support of their application for an assessment certificate for Pigment Red 3092C.

2. IDENTITY OF THE CHEMICAL

Pigment Red 3092C is not considered to be hazardous based on the nature of the chemical and the data provided. Therefore the chemical name, CAS number, molecular, structural formulae, methods of detection and determination and import volume have been exempted from publication in the Full Public Report and the Summary Report

The notified chemical contains no hazardous impurities at levels necessary to classify it as a hazardous substance (1). Therefore, information on the purity of the chemical has been exempted from publication in the Full Public Report and the Summary Report.

Other names:	Pigment Red 3092C TKP 50014
Trade name:	CROMOPHTAL DPP Flame Red FP
Molecular weight	< 1000

3. PHYSICAL AND CHEMICAL PROPERTIES

Appearance at 20°C and 101.3 kPa:	red powder
Melting point:	> 300°C
Density:	1380 kg/m^3 at 21°C
Vapour pressure:	4 x 10^{-11} kPa at 21°C
Water solubility:	<0.0001 g/L at 24°C

Fat solubility:	0.02 mg/100 g at 37°C
Partition co-efficient (n-octanol/water):	log P_{ow} 3.38
Hydrolysis as a function of pH:	not determined
Adsorption/Desorption:	not determined
Dissociation constant:	not determined
Flash point:	not determined
Flammability limits:	not highly flammable
Autoignition temperature:	350°C
Explosive properties:	no explosive properties
Reactivity/Stability:	not determined
Particle size distribution:	99.5% < 4µm median-1.03 µm

Comments on physico-chemical properties

All tests for physico-chemical characteristics were conducted according the relevant EEC Directives and OECD Guidelines.

The melting point/melting range was determined using a melting temperature device with liquid bath (Capillary method). The sample did not melt, and displayed no signs of decomposition up to 300°C.

The vapour pressure was calculated using a method based on thermogravimetry.

As the test substance exhibits of very low solubility in water, hydrolysis as a function of pH is not expected. The chemical's structure also indicates that it does not contain any functionalities likely to hydrolyse under environmental conditions.

Adsorption/desorption tests were not conducted on the grounds that the low water solubility, and method of use will restrict entry of the notified substance into the soil. This is acceptable.

The dissociation constant was not determined for the notified substance, again on the grounds of low water solubility. Examination of the structure of the chemical indicates that it does not contain any functionalities that are likely to dissociate.

4. PURITY OF THE CHEMICAL

Degree of purity: > 80%

5. USE, VOLUME AND FORMULATION

Pigment Red 3092C will be imported to be used as a pigment in the cadmium free colouration of thermoplastics. It may also be used as minor application in specialty printing inks. The quantity to be imported over the next five years will greater than a tonne per year.

6. OCCUPATIONAL EXPOSURE

The notified chemical will be imported into Australia by air-freight in antistatic-lined cardboard containers holding 10-20 kg of the pigment. It will then be transported by road to industrial establishments for formulation. There is not expected to be any exposure to the notified chemical, except in the event of a spill.

Pigments will be stored in a dry area on pallets with access to fork lift trucks. Exposure to warehouse workers may result from dust from broken container bags should spillage occur. There should be minimal exposure in the course of normal work practices.

Formulations will first be established on a laboratory scale, using a limited number of trials. The total amount of pigment powder involved is less than 0.1 kg. This is an infrequent procedure, with one to two laboratory technicians potentially being exposed to the notified chemical for less than an hour. The raw material pigment may also be tested as it is imported. This should only result in exposure for less than an hour every few months.

The notified chemical will primarily be incorporated into masterbatch colour concentrates. This will involve the weighing of the required raw pigment, fillers, carrier polymer and additives and transferring them to the mixing area by forklift, trolley or hand. The raw materials are loaded into solid phase mixers, and mixed by high speed turbine impellor blades at the bottom of the mixing vessel. Local exhaust ventilation will be in place over the pigment loading area to capture any airborne particles. The mixing will be in a closed system. After discharge from the mixer, the pre-blend is fed from the hopper of an extruder into the feed zones of mixing screws which will melt the polymer, dispersing the pigment and other ingredients within the molten polymer. Under high pressure and heat, the melt will be forced through an extrusion head, the hot strands being water cooled, pelletised, dried and packed into bags. The pigment will be totally encapsulated within the polymer resin at between 0.1-0.5%. As this is mainly an automated process there is very little potential for exposure to the notified chemical except when loading the raw materials. Two to three process workers will be potentially exposed to the notified chemical for less than an hour. The masterbatch granules containing the notified chemical can then be utilised by plastics companies for the production and colouration of plastic articles. There should not be any further exposure to the notified chemical as the

pigment will be encapsulated within the polymer.

There may be a minor application of the pigment in the formulation of specialty printing inks at two formulating establishments. This would entail the weighing of the raw pigment with other ingredients and loading them into pre-mix vessels for mixing with a liquid medium. This will be done slowly within a closed system to prevent aerosol generation and any airborne contamination. These measures will be supplemented with local exhaust ventilation. When the pigment is “wet out” the pre-mix is dispersed on bead mills, attritors or ball mills. The initial process is carried out by three plant operators who will only be exposed to the notified chemical during the initial loading. The formulation will then be sampled by up two laboratory technicians who will perform quality control tests. The formulation will then be automatically pumped into a mixing tank for further addition of additives, solvents and resin to form the finished product which would be packaged into metal containers.

Up to twenty printers per application site may be exposed to the notified chemical during the use of the formulated inks. At this stage however, the polymer is fully encapsulated in the resin/varnish/solvent/oil mix. There would only be approximately 1 g of pigment per square metre of printed article and exposure to the notified chemical should be minimal.

7. PUBLIC EXPOSURE

Masterbatches are marketed and sold, in the form of granules or pellets, to plastics processors for the colouration of plastics. Typical concentrations of the notified chemical used in the colouration of polypropylene and polyethylene plastics is 0.1-0.5%. End uses for such coloured plastics may include packaging film, plastic containers, tableware, electronics and appliances, furniture, toys and sports goods, housewares, home textiles and apparel. After reformulation into masterbatch and use in the colouration of plastics, Pigment Red 3092C is no longer in power form but is encapsulated by polymer and public exposure is expected to be negligible.

There is also a minor use (about 5%) of Pigment Red 3092C in the production of specialty printing inks. Such offset (paste) and gravure (liquid) inks typically contain 10-20% and 5-15% pigments respectively, are applied industrially and are not normally available to the public. Use for these inks may include advertising signs/posters, metal decoration, specialty packaging and security printing (e.g. banknotes, stamps). It is estimated that printed articles would contain less than 1 g of the notified chemical per square metre. Once Pigment Red 3092C is incorporated into a printing ink, applied to a substrate and the ink dried or cured, it will be encapsulated in the resin matrix of the ink, and public exposure is expected to be negligible.

The notifier has indicated that under normal conditions of use, practically no waste is generated during the incorporation of Pigment Red 3092C into formulated products. It is estimated that < 1 kg/year will be released to the environment (air and water) during the manufacture of masterbatch and printing inks respectively. The notifier has indicated that Pigment Red 3092C may be disposed of by incineration with excess air, or by landfill. Plastic ‘scrap’ arising from the manufacture of coloured

plastic items is reprocessed into lower quality articles. The notifier has indicated that due to the wide variety of plastic products coloured with the notified pigment, the ultimate fate of such products cannot be assessed with accuracy. However, it is expected that the bulk of such articles will be disposed of as household garbage by incineration, landfill or recycling. Similar comments apply to the disposal of material printed with inks containing the notified pigment.

The notified pigment will enter the public domain predominantly in the form of coloured plastics, and to a lesser extent as printed articles. In such products, Pigment Red 3092C is encapsulated within the plastic polymer or cured resin matrix of the ink and is not bioavailable. Thus, although there may be widespread public contact with such products, public exposure to the notified chemical is expected to be negligible.

8. ENVIRONMENTAL EXPOSURE

Release

Practically no waste is generated under normal conditions during the formulation of Pigment Red 9032C. During manufacture of products containing the notified chemical, the possibility of release to the environment would mainly be during the weighing/batching operation. It is estimated that < 2 kg/year will be released to the environment, with dust collectors/air filters limiting the release to the atmosphere and filtration/sedimentation limiting the release to the waterways. After incorporation and dispersion of the pigment in specialty printing inks or masterbatch, the chemical will be embedded and encapsulated by the resin or polymer.

It is estimated that losses of the notified substance will be < 1 kg/year through its use in the colouration of thermoplastics and < 1 kg/year in the specialty printing industry. Both processes consist of simple addition of the pigment, with the substance being incorporated in the polymer in the former case. The majority of this loss is expected to be collected and disposed of to landfill or incinerated.

Exposure during transportation will result only in the event of accidental spill or mishandling. All clean up of spills and disposal should be carried out according to the recommendations.

Fate

The use and application of coloured masterbatch (containing the notified chemical) for thermoplastics are also not expected to generate any significant loss of pigment to the environment. Plastic products containing the chemical will either be recycled, sent to landfill or incinerated at the end of their useful life.

The use and application of coloured masterbatch (containing the notified chemical) for thermoplastics are not expected to generate any significant loss of pigment to the environment. Plastic products containing the chemical will either be recycled, sent to landfill or incinerated at the end of their useful life.

Similar comments on fate, as given above for plastics, apply for specialty printing inks containing the notified chemical.

Disposal of the notified chemical to landfill is unlikely to result in contamination of surface and ground water. The insoluble nature of the substance will ensure any hydrolysis or breakdown to occur at an extremely low rate, if at all. Products of combustion include oxides of carbon and nitrogen and water.

- Biodegradation

The substance was examined for biodegradation potential using EEC Directive 92/69, Part C.4-D (Manometric Respirometry test), and OECD Test Guideline 301F. The substance exhibited 0% degradation after 28 days, indicating that it is not biodegradable under the conditions of the test. However, it is noted that the substance is virtually insoluble in water and therefore the test conditions were not adequately met for this method.

- Bioaccumulation

No testing of the bioaccumulation potential was conducted. Although the partition coefficient lies in the area of concern (ie log P_{ow} = 3.38), it is not expected to bioaccumulate due to the very low lipid solubility (0.02 mg/100 g@ 37 ^{o}C), extremely low water solubility (< 0.1 mg/L @ 20 ^{o}C), and relatively large molecular size (2,3,4).

9. EVALUATION OF TOXICOLOGICAL DATA

9.1 Acute Toxicity

Summary of the acute toxicity of Pigment Red 3092C

Test	*Species*	*Outcome*	*Reference*
acute oral toxicity	rat	LD_{50} > 2000 mg/kg	(5)
acute dermal toxicity	rat	LD_{50} >2000 mg/kg	(8)
skin irritation	rabbit	not an irritant	(9)
eye irritation	rabbit	not an irritant	(11)
skin sensitisation	guinea pig	not a sensitiser	(12)

9.1.1 Oral Toxicity (5)

Species/strain: Hanlbm: Wist (SPF) rat

Number/sex of animals: 5 males/5 females

Observation period: 14 days

Method of administration: the animals received a single oral dose of the

	test article in corn oil at 2000 mg/kg, administered as a 10 ml/kg dose by gavage; animals were observed daily for 14 days, at the end of which all surviving animals were sacrificed for necropsy
Clinical observations:	there were no significant clinical findings during the observation period
Mortality:	none
Morphological findings:	there were no organ abnormalities observed during necropsy
Test method:	according to EEC (6) and OECD (7) guidelines
LD_{50}:	> 2000 mg/kg
Result:	the notified chemical was of low toxicity when administered orally

9.1.2 Dermal Toxicity (8)

Species/strain:	Hanlbm: Wist (SPF) rat
Number/sex of animals:	5 males/5 females
Observation period:	14 days
Method of administration:	4.0 ml/kg of test article was applied at a concentration of 2000 mg/kg in corn oil evenly upon the shaved back skin of each animal and covered with a semi-occlusive dressing for 24 hours; after 24 hours the dressing and residual test article were removed and the rat observed daily for 14 days; at the end of this period the surviving rats were sacrificed for necropsy
Clinical observations:	local effects such as minor irritation were observed in all rats as well as discolouration of the skin; one female rat became emaciated through dermal treatment
Mortality:	none
Morphological findings:	there were no organ abnormalities observed during necropsy

Test method:	according to EEC (6) and OECD (7) guidelines
Result:	the notified chemical was of low toxicity when administered dermally

9.1.3 Skin Irritation (9)

Species/strain:	Rabbit, CRL: New Zealand White (SPF)
Number/sex of animals:	1 male/2 females
Method of administration:	0.5 g of the moistened test article was applied to approximately 6 cm^2 of the shaved dorsal area of each animal; it was covered with a surgical gauze and semi-occlusive dressing; after 4 hours the dressing was removed and the residual test article washed away so the application site could be measured for skin reactions according to Draize (10)
Test method:	according to EEC (6) and OECD (7) guidelines
Result:	the notified chemical did not exhibit any potential for skin irritancy when applied dermally

9.1.5 Eye Irritation (11)

Species/strain:	Rabbit, CRL: New Zealand White (SPF)
Number/sex of animals:	1 male/ 2 females
Observation period:	eyes were observed 1, 24, 48 and 72 hours after administration
Method of administration:	0.1 g of the test article (undiluted) was placed in the conjunctival sac of the left eye of each animal; the right eye remained untreated and served as a reference control; the eyes were assessed for irritation at the above observation times according to the criteria of Draize (10)
Test method:	according to EEC (6) and OECD (7) guidelines

Result: the notified chemical did not exhibit any significant ocular irritation

9.1.6 Skin Sensitisation (12)

Species/strain: Ibm:GOHI (Himalayan spotted) guinea pig (SPF)

Number of animals: 20 male test animals, 10 male control animals

Induction procedure: on day 1 three pairs of intradermal injections (0.1ml/site) were made in a shaved scapular region of each animal with 1:1 (v/v) mixture of Freunds' Complete Adjuvant (FCA) and saline, test article diluted to 5% with ethanol and test article diluted to 5% by emulsion in a 1:1 (v/v) mixture of FCA and physiological saline; the control group received the same injections only ethanol was used instead of the test article; on test day 7 the shaved test area was pre-treated with 10% sodium-lauryl-sulfate (SLS). On test day 8, a 2X4 cm patch of filter paper was saturated with the test article (25% in ethanol) and placed over the injection sites and firmly secured by an elastic plaster for 28 hours; the control guinea pigs were treated as described above with ethanol only; reaction sites were assessed for erythema and oedema 24 and 48 hours after removal of the dressing according to Draize (10).

Challenge procedure: on day 22, two patches (2 x2 cm) of filter paper were saturated with 25% of the test article and ethanol only, using the method for dermal application to the test site as described above; the dressings were left in place for 24 hours; reaction sites were assessed foe erythema and oedema 24 and 48 hours after removal of the dressings

Challenge outcome:

	Test animals		***Control animals***	
Challenge concentration	***24 hrs****	***48 hrs****	***24 hrs***	***48 hrs***
25%	0	0	0	0

* Time after patch removal

Test method:	according to EEC (6) and OECD (7) guidelines
Result:	the notified chemical was not a skin sensitiser in guinea pigs

9.2 Repeated Dose Toxicity (13)

Species/strain:	HanIbm: Wist (SPF) Rat
Number/sex of animals:	30 males/30 females
Method of administration:	the notified chemical was administered orally to rats by gavage in corn oil at 10 ml/kg body weight at the following doses: 0, 50, 200, 1000 mg/kg/day
Dose/Study duration::	the notified chemical was administered for 28 days by oral gavage, followed by a 14 day recovery period; at the end of treatment a number of rats were subject to haematological and biochemical analysis, and being killed for necropsy; the remaining rats were subjected to the same tests at the end of the recovery period
Clinical observations:	no treatment related clinical signs of toxicity were noted in any group; there was a red discolouration of the faeces for animals receiving 1000 mg/kg/day from treatment day 3, and for animals receiving 50 mg/kg/day and 200 mg/kg/day from treatment day 6 until the end of the treatment period
Clinical chemistry/Haematology	the assessment of haematology, clinical biochemistry and urinalysis indicated that no significant treatment-related effects were noted in the parameters measured
Histopathology:	there were minor macroscopic changes evident that were not clearly treatment related, these included dilated renal pelves, discolouration of various organs and dilated uterine horns; at microscopic level, there were no observable lesions in the gastrointestinal tract; there was some minor alveolar inflammation in six rats that received

	1000 mg/kg/day and one control rat, but this is believed to be due to particulate matter being aspirated into the trachea during oral dosing, and not a systemic effect of the notified chemical; three rats that received 1000 mg/kg/day developed slight seminiferous tubular atrophy in the testes at the end of the main study period
Test method:	according to EEC (6) and OECD (7) guidelines
Result:	the notified chemical did not exhibit any significant organ toxicity when administered orally for 28 days

9.3 Genotoxicity

9.3.1 Salmonella typhimurium Reverse Mutation Assay (14)

Strains:	*Salmonella typhimurium* TA 1535, TA 1537, TA 98 and TA 100 *Escherichia coli* WP2 and WP2*uvr*A
Concentration range:	the assay was performed in two independent experiments with or without rat liver (S9) microsomal activation; each concentration, including controls were tested in triplicate at the following concentrations: 33.3, 100, 333.3, 1000, 2500 and 5000 µg/plate
Test method:	according to EEC (6) and OECD (7) guidelines
Result:	toxic effects occurred at 5000 µg/plate in strain TA 1535 (with S9) and strain T 1537 (without S9) in experiment 1; in experiment 2, toxic effects occurred in strain TA 1537 with and without S9 mix at 2500 and 5000 µg/plate; there were no significant increases in revertant colony numbers at any dose level either in the presence or absence of metabolic activation; the notified chemical is not considered to be mutagenic in bacteria

9.3.2 Chromosome Aberration Assay in Chinese Hamster V79 Cells *In Vitro* (15)

Cell line:	Chinese Hamster V 79 cells
Concentration ranges:	experiments were performed at the following doses: 0.5, 3, 5 and 10 µg/mL without metabolic activation (S9 mix) and 3, 5, 10, 30, 90 µg/mL with S9 mix; both positive and negative controls were used
Test method:	according to EEC (6) and OECD (7) guidelines
Result:	in the absence of S9 mix, the mitotic index was reduced after treatment with the highest evaluated concentrations only at fixation levels of 18 hours; in the presence of S9 mix the mitotic index was slightly reduced only after treatment with 30 and 90 µg/ml at 18 hours; in both experiments, there were no structural aberrations after treatment with the test article at fixation intervals 18 hours and 28 hours (with and without S9 mix); the notified chemical did not induce structural chromosomal aberrations in Chinese hamster V79 cells

9.4 Overall Assessment of Toxicological Data

The notified chemical did not exhibited any acute toxicity in rats by oral (LD_{50} >2000 mg/kg) or dermal (LD_{50} > 2000 mg/kg) administration. The notified chemical was not found to cause dermal or ocular irritation in rabbits, nor was it a skin sensitiser in guinea pigs. There were no significant toxicological effects in rats from repeat oral administration for 28 days, and the notified chemical was not found to be mutagenic or genotoxic by bacterial reverse mutation assay or Chinese hamster cell chromosome aberration assay.

According to Worksafe Australia's *Approved Criteria for Classifying Hazardous Substances* (15), Pigment Red 3092C is not classed as hazardous, based on the toxicological data provided in relation to the toxicological end points measured

10. ASSESSMENT OF ENVIRONMENTAL EFFECTS

Test	*Species*	*Results*
Acute Toxicity (96 h), Semi-static conditions	Rainbow Trout, *Oncorhynchus mykiss*	LC_0, LC_{50}, and NOEC > 100 mg/L
Acute Toxicity (24 and 48 h)	*Daphnia magna*	EC_{50}> 100 mg/L (24 h & 48 h) EC_0 > 100 mg/L (24 h) EC_0 > 10 mg/L (48 h)
Growth Inhibition (72 hour)	*Scenedesmus subspicatus*	NOEC (growth) = 21 mg/L (72 h) E_bC_{50} = 115 mg/L (72 h) E_rC_{50} > 100 mg/L (0-72 h)
Respiration Inhibition Test	Micro-organisms from activated sludge	EC_{50} > 100 mg/L

* NOEC - no observable effect concentration

An auxiliary emulsifier TWEEN 80 was added to the test solutions for each of the tests, in an attempt to improve the solubility of the test substance. During the tests some substance had settled out of solution, however the test media were tested and found to be sufficiently stable. During the fish acute toxicity test, the test medium was renewed after periods of 24 hours.

The ecotoxicity data for the substance shows that the pigment is unlikely to be toxic to aquatic organisms, up to the limit of its solubility in water. However, since the test solution is intensely coloured down to the lowest test concentration of 4.6 mg/L, visual observations may have been hampered. Since the test solution is intensively coloured, algistatic effects can be caused by interception of light (shading effect) necessary for algae growth, but little evidence of this is apparent.

11. ASSESSMENT OF ENVIRONMENTAL HAZARD

The low environmental exposure of the chemical as a result of normal use indicates that the overall environmental hazard should be low. Spillage during transport or from plants prior to inclusion into various products is possible, however, given the low water solubility and low toxicity to aquatic organisms such spills should not represent a significant hazard to the environment. Colouration of the water may occur, but the pigment would most likely sorb to the sediments.

After formulation of the notified chemical into masterbatch or printing inks, its release to the environment will be negligible due to encapsulation by the polymer matrix. Estimated losses through uses of the chemical will be minimal (< 4 kg/year), with the majority of this expected to be collected and disposed of to landfill or incinerated.

Incineration of the chemical will generate oxides of carbon and nitrogen, and water. The environmental hazard can be rated as negligible. As the chemical is practically insoluble in water, the chemical waste consigned to landfill is unlikely to leach and will stay in the landfill. The environmental hazard from the disposal of plastic product waste containing the chemical is rated as low.

12. ASSESSMENT OF PUBLIC AND OCCUPATIONAL HEALTH AND SAFETY EFFECTS

Based on the toxicological tests in rats, it is unlikely that the notified chemical will pose a hazard to humans on repeated or prolonged exposure and unlikely to exhibit acute toxicity. Tests in rabbits suggest that the notified chemical is unlikely to be a skin or eye irritant, with tests in guinea pigs indicating there is little potential for skin sensitisation in humans. There was no evidence of genotoxic potential from *in vivo* tests.

During the importation and transportation of the notified chemical, there is unlikely to be any exposure, except in the event of a spill. Should this occur, the recommendations below on spillage isolation and disposal should be followed to minimise any exposure.

The major potential for exposure to the notified chemical is during its use in thermoplastic and ink production. There is potential for direct dermal exposure through handling or through dust generation when loading the pigment into the solid phase mixers. To minimise any exposure that may occur the appropriate respiratory device should be utilised in addition to eye protection, protective clothing and impervious gloves. This will be complemented with local exhaust ventilation to minimise any aerosols generated.

The further formulation processes for making both thermoplastics and inks involves mechanical dispersion within the mix and are conducted within sealed systems which are unlikely to present any significant opportunity for exposure to the notified chemical. At the end of the processes of reformulation, the notified pigment will be extruded under high temperatures and encapsulated within polymer resins and therefore will not be an exposure risk.

Workers reformulating the thermoplastics will wear safety goggles and mittens to protect eyes and skin from the hot polymer, this also serves to reduce any exposure to the notified chemical. In the manufacture and use of printing inks, some of the solvents used are hazardous and pose a health risk, hence local exhaust ventilation, respirators, eye protection, protective clothing and protective gloves are required. These will also serve to reduce any potential exposure.

The notified chemical will enter the public domain predominantly in the form of coloured plastics, and to a lesser extent as printed articles. In such products, Pigment Red 3092C is encapsulated within the plastic polymer or cured resin matrix of the ink and is not bioavailable. Thus, although there may be widespread public contact with such products, public exposure to the notified chemical is expected to be negligible.

In the case of accidental spillage during transport, the public may be exposed to Pigment Red 3092C. This may be minimised by the recommended practices for spillage.

13. RECOMMENDATIONS

To minimise occupational exposure to Pigment Red 3092C the following guidelines and precautions should be observed:

- atmospheric dust levels should be minimised in accordance with the Worksafe Australia exposure standards for minimising dust (16) in order to minimise exposure and the risk of dust explosion; local exhaust ventilation should be implemented where there is the likelihood of dust generation

- if engineering controls and work practices are insufficient to reduce exposure to Pigment Red 3092C to a safe level, then the following personal protective equipment which conforms to Australian Standard (AS) or Australian/New Zealand Standard (AS/NZS) should be worn:

  - respiratory devices should be selected and used in accordance with AS/NZS 1715 (17) and should comply with AS/NZS 1716 (18)

  - safety goggles should be selected and fitted in accordance with AS 1336 (19) to comply with AS/NZS 1337 (20)

  - industrial clothing should conform with the specifications detailed in AS 2919 (21)

  - impermeable gloves or mittens conforming to AS 2161 (22)

- spillage of the notified chemical should be avoided; should spillage occur, take up mechanically and deposit in a suitable container for disposal by landfill or incineration in accordance with local or state government regulations for the disposal of chemical waste

- good personal hygiene should be practised to minimise the potential for ingestion

- a copy of the Material Safety Data Sheet (MSDS) should be easily accessible to employees

14. MATERIAL SAFETY DATA SHEET

The MSDS for Pigment Red 3092C was provided in accordance with the *National Code of Practice for the Preparation of Material Safety Data Sheets* (23).

This MSDS was provided by CIBA-GEIGY Australia Ltd as part of their notification

statement. It is reproduced here as a matter of public record. The accuracy of this information remains the responsibility of CIBA-GEIGY Australia Ltd.

15. REQUIREMENTS FOR SECONDARY NOTIFICATION

Under the Act, secondary notification of Pigment Red 3092C shall be required if any of the circumstances stipulated under subsection 64(2) of the Act arise. No other specific conditions are prescribed.

16. REFERENCES

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