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Attn: Colin Heeney

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Dear Colin,

Thank you for your enquiry regarding your odour control products Odour Neutraliser PLUS/ SCD1100.

Odour Neutraliser PLUS / SCD1100:

A Safety Data Sheet for any product describes the hazardous potential for a product. This is classified under the prevailing NZ HSNO regime into various classes which builds up a hazards profile for a substance. This is to protect workers in the workplace from any harm.

Odour neutraliser plus (SCD1100) has HSNO classifications of:

6.3A (Skin irritancy), 6.4A (eye irritancy), 6.8A (Reproductive toxicity), 6.9B (Target organ toxicity), 9.1C (harmful to aquatic life) and 9.2C (harmful to soil).

This renders the product a hazardous substance under the HSNO act but not a Dangerous Good for transport. I emphasise that these classifications are intended to protect workers in the workplace who will be using the concentrated product.

Whilst these classifications apply to the concentrated product they do not reflect the potential toxic effects once diluted to working strength. Each of the classifications mentioned above are triggered by what are known as hazard classification thresholds which are triggered dependent on the concentration of the hazardous substances present.

Upon large dilution of a concentrate to its working strength, the classification will change quite dramatically and will result in a much lower hazard profile.

You have indicated that the SCD1100 product is diluted 333 times before use in which case we can recalculate the classification using “mixture rules” to arrive at a classification for the diluted ‘as used’ product which has been simplified to illustrate this is as follows:

Adverse Effect	Threshold (Sum of components in formulation)	SCD1100 Concentrate Wt %	SCD1100 Concentrate Classification	SCD1100 Diluted 333 times	Diluted SCD1100 Classification
Skin Irritancy	8.2B >1%<5%	1.97% (of 8.2B)	6.3A	0.005%	Not triggered
Eye Irritancy/Corrosion	8.3A >1%<3%	1.97 (2.78% of 8.3A)	6.4A	0.005%	Not Triggered
Rep/Dev Toxicity	≥0.1%	1.88%	6.8A	0.003%	Not Triggered
Target Organ toxicity	≥1%	1.88%	6.9B	0.005%	Not Triggered
Acute Aquatic Toxicity	>25%	>25%	9.1C	<25%	Not Triggered
Acute Soil Toxicity	>25%	>25%	9.2C	<25%	Not Triggered

- Is chlorine dioxide a by-product of chemical reactions with the use of this product? If so what chemical reaction occurs to produce this compound?

  The aerosol contains stabilised chlorine dioxide (SCD) to neutralise organic nuisance odours. The product is stabilised at a pH of 8-9 as a dissolved gas. Chlorine dioxide at this pH and concentration is readily soluble in water. Chlorine dioxide in gas phase could only be produced by reaction of the solution with an acid which is unlikely for the highly diluted product. Stabilised chlorine dioxide solution reacts with organic matter, bacteria and odours to form chlorates and chlorites and is also rapidly broken down by UV light to chlorite.

- What is the recommended dilution rate when used as an 'odour cannon' for control of offensive odour generated at source by industrial waste disposal?

  Dilution rate is 333 times. This however does not account for the further dilution of the aerosol in the atmosphere which will result in ultimately a much higher dilution through atmospheric dispersion.

- At what trigger level concentrations would these health effects become either chronic or acute within regulatory guidelines?

The thresholds for triggering these classifications are shown in the above table. Further guidance information is available from the EPA website, Assigning a product to a HSNO Approval.

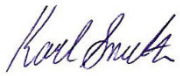
The Workplace Exposure Standard for chlorine dioxide as a gas has a time weighted average (TWA) = 0.1 ppm (0.28 mg/m3).

These values apply to workplaces only and do not directly relate to aerosols (mists) in ambient air.

*** PLEASE NOTE DOCUMENT HAS BEEN MODIFIED FROM ORIGINAL. SECTION ON FLORAL FRAGRANCE HAS BEEN REMOVED – NOT RELEVANT TO THIS DISCUSSION***

I hope this answers your questions.

Kind Regards



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