

ANNEXURE 5

Analysis of GHS criteria and the criteria specified in SABS 0304

GHS Hazard Criteria		SABS 0304 Hazard Criteria		GHS Compliance
Hazard	Criteria	Hazard	Criteria	
Acute Toxicity	Chemicals can be allocated to one of five toxicity categories based on acute toxicity by oral, dermal or inhalation route according to the numeric criteria expressed as (approximate) LD ₅₀ (oral or dermal) and LC ₅₀ (inhalation) values.	Acute Toxicity	Chemicals are allocated into one of five danger groups based on acute toxicity by oral and dermal route	SABS 0304 does not include inhalation toxicity
Category 1 (Cut-off values currently used primarily by the transport sector for classification for packing groups)	<p>Oral – 5 mg/kg body weight</p> <p>Dermal – 50 mg/kg body weight</p> <p>Gases – 100 ppmV,/4h</p> <p>Vapours – 0.5 (100*) mg/l/4h</p> <p>Dusts and mists – 0.05 mg/l/4h</p> <p>Untested mixtures must contain > 5% skin category 1 substances</p> <p>* = Test atmosphere is a vapour near gaseous phase</p> <p>It is recognised that saturated vapour pressure may be used as an additional element by some regulatory systems (e.g. UN Recommendations for the Transport of Dangerous Goods)</p> <p>If data for a mixture are not available then bridging principles used.</p>	Group Ia Extremely hazardous	<p><i>Solids</i></p> <p>Oral - ≤ 5 mg/kg body weight</p> <p>Dermal ≤ 10 mg/kg body weight</p> <p><i>Liquids</i></p> <p>Oral - ≤ 20 mg/kg body weight</p> <p>Dermal ≤ 40 mg/kg body weight</p>	<p>Partial compliance</p> <p>GHS does not differentiate between solids and liquids</p> <p>GHS includes limits for gases, vapours, dusts and mists which are not included in SABS 0304</p> <p>Oral - 5 mg/kg in GHS and ≤ 20 mg/kg for liquids in 0304. This would be Category 2 in GHS</p> <p>Dermal - 50 mg/kg in GHS and ≤ 10 mg/kg for solids and ≤ 40 mg/kg for liquids in 0304</p>

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Hazard	Criteria	Hazard	Criteria	
	If bridging principles do not apply then by additivity formula based on concentration and toxicity value of each ingredient			
Category 2	<p>Oral – 50 mg/kg body weight</p> <p>Dermal – 200 mg/kg body weight</p> <p>Gases – 500 ppmV,/4h</p> <p>Vapours – 2.0 (500*) mg/l/4h</p> <p>Dusts and mists – 0.5 mg/l/4h</p> <p>* = Test atmosphere is a vapour near gaseous phase</p> <p>It is recognised that saturated vapour pressure may be used as an additional element by some regulatory systems (e.g. UN Recommendations for the Transport of Dangerous Goods)</p> <p>If data for a mixture are not available then bridging principles used.</p> <p>If bridging principles do not apply then by additivity formula based on concentration and toxicity value of each ingredient</p>	Group Ib Highly hazardous	<p><i>Solids</i></p> <p>Oral - 5 - 50 mg/kg body weight</p> <p>Dermal – 10 - 100 mg/kg body weight</p> <p><i>Liquids</i></p> <p>Oral – 20 - 200 mg/kg body weight</p> <p>Dermal – 40 - 400 mg/kg body weight</p>	<p>Partial compliance</p> <p>GHS does not differentiate between solids and liquids</p> <p>GHS includes limits for gases, vapours, dusts and mists which are not included in SABS 0304</p> <p>Oral - 50 mg/kg in GHS and 20 - 200 mg/kg for liquids in 0304. This would range between Category 2 and 3 in GHS</p> <p>Dermal - 200 mg/kg in GHS and 10 – 100 mg/kg (Category 1 and 2 in GHS) for solids and 40 – 400 mg/kg (Category 1, 2 and 3 in GHS) for liquids in 0304.</p>
Category 3	<p>Oral – 300 mg/kg body weight</p> <p>Dermal – 1 000 mg/kg body weight</p> <p>Gases – 2 500 ppmV,/4h</p>	Group II Moderately hazardous	<p><i>Solids</i></p> <p>Oral – 50 - 500 mg/kg body weight</p> <p>Dermal – 100 – 1 000 mg/kg body weight</p>	<p>Partial compliance</p> <p>GHS does not differentiate between solids and liquids</p> <p>GHS includes limits for gases, vapours, dusts and mists which are not included in SABS 0304</p>

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	<p>Vapours – 10 (2 500*) mg/l4h</p> <p>Dusts and mists – 1.0 mg/l/4h</p> <p>* = Test atmosphere is a vapour near gaseous phase</p> <p>It is recognised that saturated vapour pressure may be used as an additional element by some regulatory systems (e.g. UN Recommendations for the Transport of Dangerous Goods)</p> <p>If data for a mixture are not available then bridging principles used.</p> <p>If bridging principles do not apply then by additivity formula based on concentration and toxicity value of each ingredient</p>		<p><i>Liquids</i></p> <p>Oral – 200 – 2 000 mg/kg body weight</p> <p>Dermal – 400 – 4 000 mg/kg body weight</p>	<p>are not included in SABS 0304</p> <p>Oral - 300 mg/kg in GHS and 50 - 500 mg/kg (Category 1,2 and 3 in GHS) for solids and 200 – 2 000 mg/kg (Category 3 and 4 in GHS) for liquids in 0304</p> <p>Dermal – 1 000 mg/kg in GHS and 100 – 1 000 mg/kg (Category 2 and 3 in GHS) for solids and 400 – 4 000 mg/kg (Category 3 and 4 in GHS) for liquids in 0304</p>
Category 4	<p>Oral – 2 000 mg/kg body weight</p> <p>Dermal – 2 000 mg/kg body weight</p> <p>Gases – 5 000 ppmV/4h</p> <p>Vapours – 20 (5 000*) mg/l/4h</p> <p>Dusts and mists – 5 mg/l/4h</p> <p>* = Test atmosphere is a vapour near gaseous phase</p> <p>If data for a mixture are not available then bridging principles used.</p>	Group III Slightly hazardous	<p><i>Solids</i></p> <p>Oral - > 500 mg/kg body weight</p> <p>Dermal - > 1 000 mg/kg body weight</p> <p><i>Liquids</i></p> <p>Oral - > 2 000 mg/kg body weight</p> <p>Dermal – 4 000 mg/kg body weight</p>	<p>Partial compliance</p> <p>GHS does not differentiate between solids and liquids</p> <p>GHS includes limits for gases, vapours, dusts and mists which are not included in SABS 0304</p> <p>Oral – 2 000 mg/kg in GHS and > 500 mg/kg (Category 3 and 4 in GHS) for solids in 0304</p> <p>Dermal – 2 000 mg/kg in GHS and >2 000 mg/kg (Category 4 and 5 in GHS) for solids and 4 000 mg/kg (Category 5 in</p>

GHS Hazard Criteria		SABS 0304 Hazard Criteria		GHS Compliance
Hazard	Criteria	Hazard	Criteria	
	If bridging principles do not apply then by additivity formula based on concentration and toxicity value of each ingredient			GHS) for liquids in 0304
Category 5 (Chemicals which are relatively low acute toxicity but which under certain circumstances may pose a hazard to vulnerable populations. Tests may indicate significant effect in humans)	Oral – 5 000 mg/kg body weight Dermal – 5 000 mg/kg body weight Gases – 5 000 pp, per volume Vapours – 5 000 mg/l Dusts and mists – 5 000 mg/l Range – 2 000 to 5 000 mg/kg body weight	Group IV Acute hazard unlikely in normal use	<i>Solids</i> Oral - > 2 000 mg/kg body weight <i>Liquids</i> Oral - > 3 000 mg/kg body weight	Partial compliance GHS does not differentiate between solids and liquids GHS includes limits for dermal, gases, vapours, dusts and mists which are not included in SABS 0304 Oral – 2 000 mg/kg in GHS and lower limit of 3 000 mg/kg for liquids in 0304