Audit - EU DK MAL Code

SIGMADUR 550 BASE REDBROWN 6179

	Product as is	Ready-for-use mixture
MAL Code	4-3	☑ Not applicable.
MAL Protection	**According to the regulations on work involving coded products, the following stipulations apply to the use of personal protective equipment:** **General:** Gloves must be worn for all work that may result in soiling. Apron/coveralls/protective clothing must be worn when soiling is so great that regular work clothes do not adequately protect skin against contact with the product. A face shield must be worn in work involving spattering if a full mask is not required. In this case, other recommended use of eye protection is not required. In all spraying operations in which there is return spray, the following must be worn: respiratory protection and arm protectors/ apron/coveralls/protective clothing as appropriate or as instructed.	☑ Not applicable.
	MAL-code: 4-3 **Application:** When spraying in new* booths if the operator is outside the spray zone. When using scraper or knife, brush, roller, etc. for pre- and post-treatments outside a closed facility, spray booth or spray cabin. - Air-supplied half mask and eye protection must be worn. When using scraper or knife, brush, roller, etc. for pre- and post-treatments in cabins or booths of the existing* facility type, if the operator is inside the spray zone. - Air-supplied half mask, coveralls and eye protection must be worn. During downtimes, cleaning and repair of closed facilities, spray booths or cabins, if there is a risk of contact with wet paint or organic solvents. - Air-supplied full mask and coveralls must be worn. When spraying in existing* spray booths, if the operator is outside the spray zone. - Air-supplied full mask, arm protectors and apron must be worn. During non-atomizing spraying in existing* facilities of the combined-cabin, spray-cabin and spray-booth type where the operator is working inside the spray zone. - Air-supplied full mask must be worn. During all spraying where atomization occurs in cabins or spray booths where the operator is inside the spray zone and during spraying outside a closed facility, cabin or booth.	☑ Not applicable.

- Air-supplied full mask, coveralls and hood must be worn.

Not applicable.

Drying: Items for drying/drying ovens that are temporarily placed on such things as rack trolleys, etc. must be equipped with a mechanical exhaust system to prevent fumes from wet items from passing through workers' inhalation zone.

Polishing: When polishing treated surfaces, a mask with dust filter must be worn. When machine grinding, eye protection must be worn. Work gloves must always be worn.

Caution The regulations contain other stipulations in addition to the above.

*See Regulations.

Low Boiling Liquid	Not applicable.	Not applicable.
MAL Number	1825.9	Not applicable.
Audit (Textual)	4-3 Figure-before-dash (from MAL Number) = 4 1600 < MAL Number [1825.9] ≤ 3200 MAL Number = density * Σ[Conc(i) * MAL Factor(i)] = 1.418 * 1287.6 = 1825.9 Density (from Density (g/m³) data entry) = 1.418 Σ[Conc(i) * MAL Factor(i)] = 1287.6 [XYLENES] Conc * MAL Factor = 21.56% * 46 = 991.9 MAL Factor entered against range: '0 to 100' = 46 [N-BUTYL ACETATE] Conc * MAL Factor = 5.004% * 14 = 70.05 MAL Factor entered against range: '0 to 100' = 14 [ETHYLBENZENE] Conc * MAL Factor = 3.838% * 46 = 176.5 MAL Factor entered against range: '0 to 100' = 46 [2,6-DIMETHYLHEPTANONE] Conc * MAL Factor = 0.3828% * 47 = 17.99 MAL Factor entered against range: '0 to 100' = 47 [2-BUTOXY ETHANOL] Conc * MAL Factor = 0.3828% * 25 = 9.57 MAL Factor entered against range: '0 to 100' = 25 [cyclohexanone] Conc * MAL Factor = 0.1627% * 70 = 11.39 MAL Factor entered against range: '0 to 100' = 70 [TOLUENE] Conc * MAL Factor = 0.06559% * 74 = 4.854 MAL Factor entered against range: '0 to 100' = 74 [1-METHOXY-2-PROPYL ACETATE] Conc * MAL Factor = 0.04788% * 19 = 0.9096 MAL Factor entered against range: '0 to 100' = 19 [1-BUTANOL] Conc * MAL Factor = 0.01492% * 67 = 1.0000 MAL Factor entered against range: '0 to 100' = 67 [ISOBUTYL ALCOHOL] Conc * MAL Factor = 0.009504% * 67 = 0.6368 MAL Factor entered against range: '0 to 100' = 67 [BENZENE] Conc * MAL Factor = 0.002465% * 880 = 2.169 MAL Factor entered against range: '0 to 100' = 880 [ACETIC ACID] Conc * MAL Factor = 0.0004975% * 400 = 0.199 MAL Factor entered against range: '0 to 100' = 400 [2-METHOXY-1-PROPYL ACETATE] Conc * MAL Factor = 0.0003792% * 181 = 0.06863 MAL Factor entered against range: '0 to 100' = 181 [CUMENE] Conc * MAL Factor = 0.0003646% * 1000 = 0.3646 MAL Factor entered against range: '0 to 100' = 1000 [PROPYLENE OXIDE] Conc * MAL Factor = 0.000001430% * 8333.3 = 0.01192 From DK (Working Environment Authority) OELs: OELs in mg/m³ and ppm available: 2 * 10000 / OEL in mg/m³ = 2 * 10000 / 2.4 = 8333.3 Available value in mg/m³ = 2.4 Available value in ppm = 1 Warning: ERCF of 2 used. Contact Authorities for MAL Factor. [ACETALDEHYDE] Conc * MAL Factor = 0.0000001824% * 1000 = 0.0001824 MAL Factor entered against range: '0 to 100' = 1000	Not applicable.

[HYDROCHLORIC ACID] Conc * MAL Factor = 0.0000001824% * 2900 = 0.0005290
MAL Factor entered against range: '0 to 100' = 2900
[FORMALDEHYDE] Conc * MAL Factor = 0.0000001344% * 2500 = 0.000336
MAL Factor entered against range: '0 to 0.1' = 2500
[ETHYLENE OXIDE] Conc * MAL Factor = 0.0000001344% * 11111.1 = 0.001493
From DK (Working Environment Authority) OELs: OELs in mg/m³ and ppm available: 2 * 10000 / OEL in mg/m³ = 2 * 10000 / 1.8 = 11111.1
Available value in mg/m³ = 1.8
Available value in ppm = 1
Warning: ERCF of 2 used. Contact Authorities for MAL Factor.
[1,4-DIOXANE] Conc * MAL Factor = 0.0000000768% * 390 = 0.00002995
MAL Factor entered against range: '0 to 100' = 390
[METHYL ALCOHOL] Conc * MAL Factor = 0.0000000768% * 54 = 0.000004147
MAL Factor entered against range: '0 to 100' = 54
[METHYL CHLORIDE] Conc * MAL Factor = 0.0000000768% * 476.2 = 0.00003657
From DK (Working Environment Authority) OELs: OELs in mg/m³ and ppm available: 2 * 10000 / OEL in mg/m³ = 2 * 10000 / 42 = 476.2
Available value in mg/m³ = 42
Available value in ppm = 20
Warning: ERCF of 2 used. Contact Authorities for MAL Factor.
Ingredients with MAL factor of 0 [did not contribute] {Denmark MAL Code}
BARIUM SULPHATE (36.40%)
MAL Factor entered against range: '0 to 100' = 0
hydroxy acrylic resin (24.57%)
Default assumption [non-volatile] = 0
Diiron trioxide (5.217%)
MAL Factor entered against range: '0 to 100' = 0
N,N-1,6-HEXANEDIYLBIS (12-HYDROXY-OCTADECANEIMIDE) (1.531%)
MAL Factor entered against range: '0 to 100' = 0
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate (0.287%)
Default assumption [non-volatile] = 0
2,9 DIMETHYL QUINACRIDONE (0.1988%)
MAL Factor entered against range: '0 to 100' = 0
BLOCKED COPOLYMER (0.1724%)
MAL Factor entered against range: '0 to 100' = 0
2-HYDROXYETHYL METHACRYLATE (0.06552%)
MAL Factor entered against range: '0 to 100' = 0
Siloxanes and Silicones, di-Me, [(triethoxysilyl)oxy]-terminated (0.02871%)
Default assumption [non-volatile] = 0
ALKOXYLATED BUTYL ETHER (0.02862%)
MAL Factor entered against range: '0 to 100' = 0
proprietary siloxane (0.01327%)
Default assumption [non-volatile] = 0
proprietary polyglycol (0.008054%)
Default assumption [non-volatile] = 0
ALUMINUM SILICATE (0.00615%)
MAL Factor entered against range: '0 to 100' = 0
dibutyltin dilaurate (0.002367%)
MAL Factor entered against range: '0 to 100' = 0
WATER (0.00199%)
MAL Factor entered against range: '0 to 100' = 0
organotin compound (0.0003792%)
From US (ACGIH) OELs: Product is assumed to be non-volatile, due to an OEL in mg/m³ being available, and no ppm OEL being available] = 0
Available value in mg/m³ = 0.1
OCTAMETHYLCYCLOTETRASILOXANE (0.0001728%)
MAL Factor entered against range: '0 to 100' = 0
Decamethylcyclopentasiloxane (0.0001728%)
MAL Factor entered against range: '0 to 100' = 0
COCONUT FATTY ACIDS (0.0000732%)
MAL Factor entered against range: '0 to 100' = 0
Figure-after-dash (Ingredient(s) above the cut-off on their own) = 3
Ingredients above the Figure-after-dash 3 concentration limit on their own {Denmark MAL Code}
XYLENES (21.56%)
Ingredient concentration is above the limit [10%]
Stricter figure-after-dash numbers that are not available because Σ [ing conc / ing limit] < 1
Figure-after-dash 6 calculated ratio: Σ [ing conc / ing limit] = 0.02892745792
BENZENE: Ing conc / Ing limit = 0.002465 / 0.1 = 0.02465
Minimum value of concentration limit associated with figure-after-dash 6 = 0.1
dibutyltin dilaurate: Ing conc / Ing limit = 0.002367 / 1 = 0.002367
Minimum value of concentration limit associated with figure-after-dash 6 = 1

2-METHOXY-1-PROPYL ACETATE: Ing conc / Ing limit = 0.0003792 / 0.2 = 0.001896
Minimum value of concentration limit associated with figure-after-dash 6 = 0.2
PROPYLENE OXIDE: Ing conc / Ing limit = 0.000001430 / 0.1 = 0.00001430
Minimum value of concentration limit associated with figure-after-dash 6 = 0.1
Figure-after-dash (CLP hazard) = 6
GHS Status - EU
Carcinogen - Category 1B - From 'Entered data'
Entered data - [EU] [9] [Datalink]
Germ cell mutagenicity - Category 1B - From 'Entered data'
Entered data - [EU] [9] [Datalink]
FORMALDEHYDE: Ing conc / Ing limit = 0.0000001344 / 1 = 0.0000001344
Minimum value of concentration limit associated with figure-after-dash 6 = 1
ETHYLENE OXIDE: Ing conc / Ing limit = 0.0000001344 / 0.1 = 0.000001344
Minimum value of concentration limit associated with figure-after-dash 6 = 0.1
Figure-after-dash (CLP hazard) = 6
GHS Status - EU
Carcinogen - Category 1B - From 'Entered data'
Entered data - [EU] [14] [Datalink]
Germ cell mutagenicity - Category 1B - From 'Entered data'
Entered data - [EU] [14] [Datalink]
Reproductive toxicity
Calculation intermediates involved in final hazard assignment
Reproductive toxicity - Fertility - Category 1B - Effect On: Fertility - From 'Entered data'
Entered data - [EU] [14] [Datalink]
Reproductive toxicity - Unborn child - Category 2 - Effect On: UnbornChild - From 'Entered data'
Entered data - [EU] [14] [Datalink]
1,4-DIOXANE: Ing conc / Ing limit = 0.0000000768 / 10 = 0.00000000768
Minimum value of concentration limit associated with figure-after-dash 6 = 10
METHYL ALCOHOL: Ing conc / Ing limit = 0.0000000768 / 20 = 0.00000000384
Minimum value of concentration limit associated with figure-after-dash 6 = 20
METHYL CHLORIDE: Ing conc / Ing limit = 0.0000000768 / 0.1 = 0.000000768
Minimum value of concentration limit associated with figure-after-dash 6 = 0.1
Figure-after-dash (OEL Criteria - Carcinogen) = 6
DK OEL: Carcinogen CMR applicable
Figure-after-dash 5 calculated ratio: Σ [ing conc / ing limit] = 0.30010304
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate: Ing conc / Ing limit = 0.287 / 1 = 0.287
Minimum value of concentration limit associated with figure-after-dash 5 = 1
Figure-after-dash (CLP hazard) = 5
GHS Status - EU
Skin sensitization - Category 1A - From 'Entered data'
Entered data - [EU] [99] [User]
2-HYDROXYETHYL METHACRYLATE: Ing conc / Ing limit = 0.06552 / 5 = 0.01310
Minimum value of concentration limit associated with figure-after-dash 5 = 5
Figure-after-dash 4 calculated ratio: Σ [ing conc / ing limit] = 0.00001993648
ACETIC ACID: Ing conc / Ing limit = 0.0004975 / 25 = 0.0000199
Minimum value of concentration limit associated with figure-after-dash 4 = 25
HYDROCHLORIC ACID: Ing conc / Ing limit = 0.0000001824 / 5 = 0.00000003648
Minimum value of concentration limit associated with figure-after-dash 4 = 5