SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH)

MARK CA

SDS no. : 35654

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Product name : MARK CA

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Use of lubricants and greases in open systems - Professional Formulation additives, lubricants and greases - Industrial General use of lubricants and greases in vehicles or machinery - Industrial General use of lubricants and greases in vehicles or machinery - Professional Use of lubricants and greases in open systems - Industrial Lubricating grease

1.3 Details of the supplier of the safety data sheet

UNIMEC S.p.A.
via del lavoro, 20 - 20865
Usmate - Velate (MB)
ITALIA
Tel: +39.039.6076900
Fax: +39.039 6076909
e-mail: info@unimec.eu

Contact

H.S.E

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : National Poisons Information Service (NPIS): 111

Supplier

Telephone number : Emergency telephone: +44 1235 239670

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Eye Irrit. 2, H319

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity : 1.2 percent of the mixture consists of component(s) of unknown acute dermal toxicity
3.3 percent of the mixture consists of component(s) of unknown acute inhalation toxicity

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H319 - Causes serious eye irritation.

Precautionary statements

Prevention : P280 - Wear eye/face protection.

Response : P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical advice/attention.

Storage : Not applicable.

Disposal : Not applicable.

Supplemental label elements : Contains Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts, Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts and Sulfonic acids, petroleum, calcium salts. May produce an allergic reaction.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

2.3 Other hazards

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : Prolonged or repeated contact may dry skin and cause irritation.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	REACH #: 01-2119492627-25 EC: 271-529-4 CAS: 68584-23-6	≤5	Skin Sens. 1B, H317	[1]
Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts	REACH #: 01-2119492616-28 EC: 274-263-7 CAS: 70024-69-0	≤3	Skin Sens. 1B, H317	[1]
Sulfonic acids, petroleum, calcium salts	REACH #: 01-2119488992-18 EC: 263-093-9 CAS: 61789-86-4	≤3	Skin Sens. 1, H317	[1]
Benzenesulfonic acid, C10-13-alkyl derivs., Ca Salt	REACH #: 01-2119560592-37 EC: 932-231-6	<3	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 3, H412 **See Section 16 for the full text of the H statements declared above.**	[1]

Additional information : Mineral oil of petroleum origin Product containing mineral oil with less than 3% DMSO extract as measured by IP 346

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
[5] Substance of equivalent concern
[6] Additional disclosure due to company policy

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : No specific fire or explosion hazard.

Hazardous combustion products : carbon dioxide
carbon monoxide
metal oxide/oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters	:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	:	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions	:	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill	:	Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
Large spill	:	Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections	:	See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures	:	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Reportable hazardous constituent(s) contained in UVCB- and/or multi-constituent substance(s) complying with the classification criteria and/or with an exposure limit (OEL)

No exposure limit value known.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Advisory OEL : Mineral oil mist: USA: OSHA (PEL) TWA 5 mg/m3, NIOSH (REL) TWA 5 mg/m3, STEL 10 mg/m3, ACGIH (TLV) TWA 5 mg/m3 (highly refined)

DNELs/DMELs

Product/substance	Type	Exposure	Value	Population	Effects
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	DNEL	Long term Oral	0.833 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	1.667 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	3.33 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	11.75 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	2.9 mg/m³	General population	Systemic
	DNEL	Long term Dermal	1.03 mg/cm²	Workers	Local
	DNEL	Long term Dermal	0.513 mg/cm²	General population	Local
Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts	DNEL	Long term Oral	0.8333 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	1.667 mg/kg bw/day	General population	Systemic

	DNEL	Long term Inhalation	2.9 mg/m³	General population	Systemic
	DNEL	Long term Dermal	3.33 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	11.75 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	0.66 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	0.33 mg/m³	General population	Systemic
Sulfonic acids, petroleum, calcium salts	DNEL	Long term Oral	0.8333 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	1.667 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	2.9 mg/m³	General population	Systemic
	DNEL	Long term Dermal	3.33 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	11.75 mg/m³	Workers	Systemic
Benzenesulfonic acid, C10-13-alkyl derivs., Ca Salt	DNEL	Long term Dermal	1.7 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	85 mg/kg bw/day	General population	Systemic

PNECs

Product/ingredient name	Compartment Detail	Name	Method Detail
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	Fresh water	1 mg/l	-
	Marine water	1 mg/l	-
	Fresh water sediment	723500000 mg/kg dwt	-
	Marine water sediment	723500000 mg/kg dwt	-
	Soil	868700000 mg/kg dwt	-
	Sewage Treatment Plant	100 mg/l	-
Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts	Fresh water	1 mg/l	-
	Marine water	1 mg/l	-
	Fresh water sediment	723500000 mg/kg dwt	-
	Marine water sediment	723500000 mg/kg dwt	-
	Soil	868700000 mg/kg dwt	-
	Sewage Treatment Plant	100 mg/l	-
Sulfonic acids, petroleum, calcium salts	Fresh water	1 mg/l	-
	Marine water	1 mg/l	-
	Fresh water sediment	226000000 mg/kg dwt	-
	Marine water sediment	226000000 mg/kg dwt	-
	Soil	271000000 mg/kg wwt	-
	Sewage Treatment Plant	1000 mg/l	-

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Hydrocarbon-proof gloves
nitrile rubber
Fluorinated rubber
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
In case of prolonged contact with the product, it is recommended to wear gloves complying with EN 420 and EN 374 standards, protecting at least for 480 minutes and having a thickness of 0,38 mm at least. These values are indicative only. The level of protection is provided by the material of the glove, its technical characteristics, its resistance to the chemicals to be handled, the appropriateness of its use and its replacement frequency

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator with combination filter for vapour/particulate Type A/P1 Warning ! filters have a limited use duration The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses None under normal use conditions

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	Solid.
Colour	:	Light brown.
Odour	:	Characteristic.
Odour threshold	:	Not available.
pH	:	Not applicable.
Melting point/freezing point	:	Not available.
Initial boiling point and boiling range	:	Not available.
Flash point	:	Open cup: Not applicable.
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not available.
Upper/lower flammability or explosive limits	:	Not available.
Vapour pressure	:	Not available.
Vapor pressure 37.8°C (100°F)	:	Not available.
Vapour density	:	Not available.
Relative density	:	0.9
Solubility(ies)	:	Insoluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/ water	:	Not available.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Viscosity	:	Kinematic (40°C): Not applicable.
Explosive properties	:	Not available.
Oxidising properties	:	Not applicable

9.2 Other information

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : Strong oxidising agents

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/substance	Result	Species	Dose	Exposure	Test
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	LC50 Inhalation Dusts and mists	Rat - Male, Female	>1.9 mg/l	4 hours	EPA OPP 81-3 Acute Inhalation Toxicity
	LD50 Dermal	Rabbit - Male, Female	>4000 mg/kg	-	OECD
	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-	OECD 401 Read across
Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts	LC50 Inhalation Dusts and mists	Rat	5.1 mg/l	4 hours	-
	LD50 Dermal	Rabbit	2201 mg/kg	-	OECD 402
	LD50 Oral	Rat	5500 mg/kg	-	OECD 401
Sulfonic acids, petroleum, calcium salts	LC50 Inhalation Dusts and mists	Rat	>1.9 mg/l	4 hours	-
	LD50 Dermal	Rabbit	>4000 mg/kg	-	-
	LD50 Oral	Rat	16000 mg/kg	-	-
Benzenesulfonic acid, C10-13-alkyl derivs., Ca Salt	LD50 Dermal	Rat	2000 mg/kg	-	-
	LD50 Oral	Rat	4445 mg/kg	-	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

Acute toxicity estimates

Product/substance	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts	5500	2201	N/A	N/A	5.1
Sulfonic acids, petroleum, calcium salts	16000	N/A	N/A	N/A	N/A
Benzenesulfonic acid, C10-13-alkyl derivs., Ca Salt	4445	N/A	N/A	N/A	N/A

Irritation/Corrosion

Product/substance	Result	Species	Score	Exposure	Test
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	Skin - Oedema	Rabbit	0.3	4 hours	EPA OPPTS 870.2500 Acute Dermal Irritation
	Skin - Primary dermal irritation index (PDII)	Rabbit	0.5	4 hours	OECD
	Eyes - Cornea opacity	Rabbit	0	-	EPA

Conclusion/Summary

Skin : Based on available data, the classification criteria are not met.

Eyes : Based on available data, the classification criteria are met.

Respiratory : Based on available data, the classification criteria are not met.

Sensitisation

Product/substance	Route of exposure	Species	Result
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	skin	Human	Sensitising

Conclusion/Summary :

Skin : The supplier of one or more of the components contained within this formulation has indicated that he has data on the components and/or similar mixtures, which confirms that at the concentration used, classification is not required

Respiratory : Based on available data, the classification criteria are not met.

Mutagenicity

Product/substance	Test	Experiment	Result
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 474	Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic	Negative
	-	Experiment: In vivo Subject: Mammalian-Animal	Negative

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Reproductive toxicity

Product/substance	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	Negative	Negative	Negative	Rat - Male, Female	Oral	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

Teratogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion : No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Product/substance	Result	Species	Dose	Exposure
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	Sub-acute NOAEL Oral	Rat - Male, Female	500 mg/kg	-
	Sub-acute NOAEL Dermal	Rat - Male, Female	>1000 mg/kg	-
	Sub-acute NOAEL Inhalation Vapour	Rat - Male, Female	50 mg/m³	28 days

Conclusion/Summary : Not available.

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/substance	Result	Species	Exposure	Test
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	Acute EC50 >1000 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours	-
	Acute EC50 >1000 mg/l	Daphnia - Daphnia magna	48 hours	-
Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts	Acute EC50 >1000 mg/l	Algae - Pseudokirchnerella subcapitata	72 hours	-
	Acute EC50 >1000 mg/l	Daphnia - Daphnia magna	48 hours	-
Sulfonic acids, petroleum, calcium salts	Acute EC50 >1000 mg/l	Algae - Pseudokirchnerella subcapitata	72 hours	-
	Acute EC50 >1000 mg/l	Daphnia - Daphnia magna	48 hours	OECD 202
Benzenesulfonic acid, C10-13-alkyl derivs., Ca Salt	Acute EC50 29 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours	-
	Acute EC50 2.9 mg/l	Daphnia - Daphnia magna	48 hours	OECD 202
	Acute NOEC 0.5 mg/l	Algae	96 hours	-
	Acute NOEC 0.23 mg/l	Fish	72 hours	-
	Chronic NOEC 1.18 mg/l	Daphnia - Daphnia magna	21 days	-

12.2 Persistence and degradability

Conclusion/Summary : Not available.

Product/substance	Aquatic half-life	Photolysis	Biodegradability
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	-	-	Not readily
Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts	-	-	Not readily
Sulfonic acids, petroleum, calcium salts	-	-	Not readily

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

Mobility in soil : Given its physical and chemical characteristics, the product has no soil mobility. The product is insoluble and floats on water. Loss by evaporation is limited

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Yes.

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used The following Waste Codes are only suggestions: 12 01 12*

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	ICAO/IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	:	Not determined.
Canada	:	Not determined.
China	:	Not determined.
Europe	:	All components are listed or exempted.
Japan	:	**Japan inventory (ENCS)**: Not determined. **Japan inventory (ISHL)**: Not determined.
New Zealand	:	Not determined.
Philippines	:	Not determined.
Republic of Korea	:	Not determined.
Taiwan	:	Not determined.
Thailand	:	Not determined.
Turkey	:	Not determined.
United States	:	Not determined.
Viet Nam	:	Not determined.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Value : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Eye Irrit. 2, H319	Calculation method

Full text of abbreviated H statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Aquatic Chronic 3, H412	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Eye Dam. 1, H318	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1, H317	SKIN SENSITISATION - Category 1
Skin Sens. 1B, H317	SKIN SENSITISATION - Category 1B

Date of revision : 7/8/2021

Date of previous revision : No previous validation

Version : 1

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mixture

Code : 35654

Product name : MARK CA

Section 1 - Title

Short title of the exposure scenario : Use of lubricants and greases in open systems - Professional

List of use descriptors : **Identified use name:** Use of lubricants and greases in open systems - Professional
Process Category: PROC01, PROC02, PROC08a, PROC10, PROC11, PROC13
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08d

Environmental contributing scenarios :

Health Contributing scenarios : **General measures applicable to all activities**
Material transfers Manual - PROC08a
Roller, spreader, flow application - PROC10
Spraying - PROC11
Treatment of articles by dipping and pouring - PROC13
Equipment cleaning and maintenance - PROC08a
Storage - PROC01, PROC02

Processes and activities covered by the exposure scenario : Covers use of lubricants and greases in open systems, including application of lubricant to work pieces or equipment by dipping, brushing or spraying (without exposure to heat), e.g. mold releases, corrosion protection, slideways. Includes associated product storage, material transfers, sampling and maintenance activities.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

No exposure scenario required

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).

Physical state : Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently).

Other conditions affecting workers exposure : Assumes use at not more than 20°C above ambient temperature. unless stated differently.
Assumes a good basic standard of occupational hygiene has been implemented.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying. Avoid direct eye contact with product, also via contamination on hands.

Personal protection : Use suitable eye protection.

Contributing scenario controlling worker exposure for 3: Material transfers Manual

Frequency and duration of use/exposure : Avoid carrying out activities involving exposure for more than 1 hour per day.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 4: Roller, spreader, flow application

Frequency and duration of use/exposure : Avoid carrying out activities involving exposure for more than 4 hours per day.

Ventilation control measures : Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour) Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Contributing scenario controlling worker exposure for 5: Spraying

Frequency and duration of use/exposure : Avoid carrying out activities involving exposure for more than 1 hour per day.

Ventilation control measures : Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour) Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear suitable coveralls to prevent exposure to the skin. Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Respiratory protection : Wear a respirator conforming to EN140 with type A/P2 filter or better.

Contributing scenario controlling worker exposure for 6: Treatment of articles by dipping and pouring

Ventilation control measures : Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour) Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 7: Equipment cleaning and maintenance

Frequency and duration of use/exposure : Avoid carrying out activities involving exposure for more than 4 hours per day.

Technical conditions and measures at process level (source) to prevent release : Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Engineering controls : Drain down system prior to equipment break-in or maintenance.

Ventilation control measures : Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour) Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 8: Storage

Engineering controls : Store substance within a closed system.

Conditions and measures related to personal protection, hygiene and health evaluation

Section 3 - Exposure estimation and reference to its source

Website: : Not applicable.

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment): : Used ECETOC TRA model..

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 2:

Exposure assessment (human):	:	The risk Management Mesures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.atiel.org/reach/introduction.
Health	:	Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. For further information see www.atiel.org/reach/introduction.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mixture

Code : 35654

Product name : MARK CA

Section 1 - Title

Short title of the exposure scenario : Formulation additives, lubricants and greases - Industrial

List of use descriptors : **Identified use name:** Formulation additives, lubricants and greases - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC15
Sector of end use: SU03, SU10
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02

Environmental contributing scenarios :

Health Contributing scenarios : **General measures applicable to all activities**
General exposures Use in contained systems Elevated temperature - PROC02
Mixing operations Closed systems Batch processes at elevated temperatures - PROC03
Mixing operations Open systems Batch processes at elevated temperatures - PROC04, PROC05
Mixing operations (open systems) - PROC04, PROC05
Process sampling - PROC04, PROC08b
Bulk transfers Dedicated facility - PROC08b
Drum/batch transfers Dedicated facility - PROC08b
Drum/batch transfers Non-dedicated facility - PROC08a
Equipment cleaning and maintenance - PROC08a, PROC08b
Drum and small package filling - PROC09
Laboratory activities - PROC15
Storage - PROC01, PROC02

Processes and activities covered by the exposure scenario : Industrial formulation of lubricant additives, lubricants and greases. Includes material transfers, mixing, large and small scale packing, sampling, maintenance.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

No exposure scenario required

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100 %. (unless stated differently)

Physical state : Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure

Amounts used : Not applicable.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently)

Human factors not influenced by risk management : Not applicable.

Other conditions affecting workers exposure : Covers percentage substance in the product up to 100% (unless stated differently)

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Avoid direct eye contact with product, also via contamination on hands.

Personal protection : Use suitable eye protection.

Contributing scenario controlling worker exposure for 3: General exposures Use in contained systems Elevated temperature

No other specific measures identified.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 4: Mixing operations Closed systems Batch processes at elevated temperatures

Ventilation control measures : Provide extract ventilation to points where emissions occur.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 5: Mixing operations Open systems Batch processes at elevated temperatures

Frequency and duration of use/exposure : Avoid carrying out activities involving exposure for more than 4 hours per day.

Ventilation control measures : Provide extract ventilation to points where emissions occur.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 6: Mixing operations (open systems)

Ventilation control measures : Provide extract ventilation to points where emissions occur.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 7: Process sampling

Frequency and duration of use/exposure : Avoid carrying out activities involving exposure for more than 1 hour per day.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Contributing scenario controlling worker exposure for 8: Bulk transfers Dedicated facility

Frequency and duration of use/exposure : Avoid carrying out activities involving exposure for more than 4 hours per day.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls.

Contributing scenario controlling worker exposure for 9: Drum/batch transfers Dedicated facility

Ventilation control measures : Provide extract ventilation to points where emissions occur.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 10: Drum/batch transfers Non-dedicated facility

Frequency and duration of use/exposure : Avoid carrying out activities involving exposure for more than 1 hour per day.

Ventilation control measures : Provide a good standard of general or controlled ventilation (10 to 15 air changes per hour).

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls.

Contributing scenario controlling worker exposure for 11: Equipment cleaning and maintenance

Technical conditions and measures to control dispersion from source towards the worker : Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Engineering controls : Drain down and flush system prior to equipment break-in or maintenance.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Clear spills immediately.

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls.

Contributing scenario controlling worker exposure for 12: Drum and small package filling

Ventilation control measures : Provide a good standard of general or controlled ventilation (10 to 15 air changes per hour).

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Contributing scenario controlling worker exposure for 13: Laboratory activities

Frequency and duration of use/exposure : Avoid carrying out activities involving exposure for more than 4 hours per day.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 14: Storage

Engineering controls : Store substance within a closed system.

Conditions and measures related to personal protection, hygiene and health evaluation

Section 3 - Exposure estimation and reference to its source

Website: : Not applicable.

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment): : Used ECETOC TRA model..

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 2:

Exposure assessment (human): : The risk Management Mesures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.

Exposure estimation and reference to its source : Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.atiel.org/reach/introduction.
Health	:	Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. For further information see www.atiel.org/reach/introduction.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mixture

Code : 35654

Product name : MARK CA

Section 1 - Title

Short title of the exposure scenario : General use of lubricants and greases in vehicles or machinery - Industrial

List of use descriptors : **Identified use name:** General use of lubricants and greases in vehicles or machinery - Industrial
Process Category: PROC01, PROC02, PROC08b, PROC09
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC07

Environmental contributing scenarios :

Health Contributing scenarios : **General measures applicable to all activities**
General exposures (closed systems) - PROC01
Initial factory fill of equipment Use in contained systems - PROC02, PROC09
Initial factory fill of equipment Open systems - PROC08b
Operation of equipment containing engine oils and similar Use in contained systems - PROC01
Equipment cleaning and maintenance - PROC08b
Equipment cleaning and maintenance Operation is carried out at elevated temperature (> 20°C above ambient temperature) - PROC08b
Storage - PROC01, PROC02

Processes and activities covered by the exposure scenario : Covers general use of lubricants and greases in vehiculs or machinery in closed systems. Includes filling and draining of containers and operation of enclosed machinery (including engines) and associated maintenance and storage activities.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

No exposure scenario required

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).

Physical state : Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently).

Other conditions affecting workers exposure : Assumes use at not more than 20°C above ambient temperature. unless stated differently.
Assumes a good basic standard of occupational hygiene has been implemented.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Avoid direct eye contact with product, also via contamination on hands.

Personal protection : Use suitable eye protection.

Contributing scenario controlling worker exposure for 3: General exposures (closed systems)

No other specific measures identified.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 4: Initial factory fill of equipment Use in contained systems

No other specific measures identified.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 5: Initial factory fill of equipment Open systems

Frequency and duration of use/exposure : Avoid carrying out activities involving exposure for more than 4 hours per day.

Ventilation control measures : Provide a good standard of general or controlled ventilation (10 to 15 air changes per hour)

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 6: Operation of equipment containing engine oils and similar Use in contained systems

No other specific measures identified.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 7: Equipment cleaning and maintenance

Technical conditions and measures at process level (source) to prevent release : Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Engineering controls : Drain down system prior to equipment break-in or maintenance.

Ventilation control measures : Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Contributing scenario controlling worker exposure for 8: Equipment cleaning and maintenance Operation is carried out at elevated temperature (> 20°C above ambient temperature)

Technical conditions and measures to control dispersion from source towards the worker : Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Engineering controls : Drain down system prior to equipment break-in or maintenance.

Ventilation control measures : Provide extract ventilation to emission points when contact with warm (>50°C) lubricant is likely.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls.

Contributing scenario controlling worker exposure for 9: Storage

Engineering controls : Store substance within a closed system.

Conditions and measures related to personal protection, hygiene and health evaluation

Section 3 - Exposure estimation and reference to its source

Website: : Not applicable.

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment): : Used ECETOC TRA model..

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 2:

Exposure assessment (human):	:	The risk Management Mesures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.atiel.org/reach/introduction.
Health	:	Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. For further information see www.atiel.org/reach/introduction.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Mixture

Code : 35654

Product name : MARK CA

Section 1 - Title

Short title of the exposure scenario : General use of lubricants and greases in vehicles or machinery - Professional

List of use descriptors : **Identified use name:** General use of lubricants and greases in vehicles or machinery - Professional
Process Category: PROC01, PROC02, PROC08a, PROC08b, PROC20
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC09a, ERC09b

Environmental contributing scenarios :

Health Contributing scenarios : **General measures applicable to all activities**
Operation of equipment containing engine oils and similar Use in contained systems - PROC01
Material transfers Non-dedicated facility - PROC08a
Equipment cleaning and maintenance Dedicated facility - PROC08b, PROC20
Storage - PROC01, PROC02

Processes and activities covered by the exposure scenario : Covers general use of lubricants and greases in vehiculs or machinery in closed systems. Includes filling and draining of containers and operation of enclosed machinery (including engines) and associated maintenance and storage activities.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

No exposure scenario required

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).

Physical state : Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently).

Other conditions affecting workers exposure : Assumes use at not more than 20°C above ambient temperature. unless stated differently.
Assumes a good basic standard of occupational hygiene has been implemented.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Avoid direct eye contact with product, also via contamination on hands.

Personal protection : Use suitable eye protection.

Contributing scenario controlling worker exposure for 3: Operation of equipment containing engine oils and similar Use in contained systems

No other specific measures identified.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 4: Material transfers Non-dedicated facility

Frequency and duration of use/exposure : Avoid carrying out activities involving exposure for more than 4 hours per day.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Contributing scenario controlling worker exposure for 5: Equipment cleaning and maintenance Dedicated facility

Technical conditions and measures at process level (source) to prevent release : Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Engineering controls : Drain down system prior to equipment break-in or maintenance.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 6: Storage

Engineering controls : Store substance within a closed system.

Conditions and measures related to personal protection, hygiene and health evaluation

Section 3 - Exposure estimation and reference to its source

Website: : Not applicable.

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment): : Used ECETOC TRA model..

Exposure estimation and reference to its source : Not available.

Exposure estimation and reference to its source - Workers: 2:

Exposure assessment (human): : The risk Management Mesures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.

Exposure estimation and reference to its source : Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.atiel.org/reach/introduction.

Health : Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. For further information see www.atiel.org/reach/introduction.

Additional good practice advice beyond the REACH CSA

Environment : Not available.

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mixture

Code : 35654

Product name : MARK CA

Section 1 - Title

Short title of the exposure scenario : Use of lubricants and greases in open systems - Industrial

List of use descriptors : **Identified use name:** Use of lubricants and greases in open systems - Industrial
Process Category: PROC01, PROC02, PROC07, PROC08b, PROC09, PROC10, PROC13
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04

Environmental contributing scenarios :

Health Contributing scenarios : **General measures applicable to all activities**
Material transfers Manual - PROC08b
Material transfers Automated process with (semi) closed systems - PROC08b, PROC09
Roller, spreader, flow application - PROC10
Spraying - PROC07
Treatment of articles by dipping and pouring - PROC13
Equipment cleaning and maintenance - PROC08b
Storage - PROC01, PROC02

Processes and activities covered by the exposure scenario : Covers use of lubricants and greases in open systems, including application of lubricant to work pieces or equipment by dipping, brushing or spraying (without exposure to heat), e.g. mold releases, corrosion protection, slideways. Includes associated product storage, material transfers, sampling and maintenance activities

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

No exposure scenario required

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

Concentration of substance in mixture or article : Covers percentage substance in the product up to 100% (unless stated differently).

Physical state : Liquid, vapour pressure < 0.5 kPa at Standard Temperature and Pressure.

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours (unless stated differently).

Other conditions affecting workers exposure : Assumes use at not more than 20°C above ambient temperature. unless stated differently.
Assumes a good basic standard of occupational hygiene has been implemented.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying. Avoid direct eye contact with product, also via contamination on hands.

Personal protection	: Use suitable eye protection.

Contributing scenario controlling worker exposure for 3: Material transfers Manual

Frequency and duration of use/exposure	: Avoid carrying out activities involving exposure for more than 1 hour per day.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 4: Material transfers Automated process with (semi) closed systems

Ventilation control measures	: Ensure material transfers are under containment or extract ventilation.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 5: Roller, spreader, flow application

Ventilation control measures	: Provide extract ventilation to points where emissions occur.

Conditions and measures related to personal protection, hygiene and health evaluation

Contributing scenario controlling worker exposure for 6: Spraying

Ventilation control measures	: Carry out in a vented booth or extracted enclosure.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	: Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Contributing scenario controlling worker exposure for 7: Treatment of articles by dipping and pouring

Ventilation control measures	: Provide a good standard of general or controlled ventilation (10 to 15 air changes per hour)

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	: Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls.

Contributing scenario controlling worker exposure for 8: Equipment cleaning and maintenance

Technical conditions and measures at process level (source) to prevent release	: Retain drain-downs in sealed storage pending disposal or for subsequent recycle.
Engineering controls	: Drain down system prior to equipment break-in or maintenance.
Ventilation control measures	: Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection	: Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Contributing scenario controlling worker exposure for 9: Storage

Engineering controls	: Store substance within a closed system.

Conditions and measures related to personal protection, hygiene and health evaluation

Section 3 - Exposure estimation and reference to its source

Website:	: Not applicable.

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment):	: Used ECETOC TRA model..
Exposure estimation and reference to its source	: Not available.

Exposure estimation and reference to its source - Workers: 2:

Exposure assessment (human):	:	The risk Management Mesures/Operational Conditions that are identified in the Exposure Scenario are the outcome of a quantitative and qualitative assessment that covers this product.
Exposure estimation and reference to its source	:	Not available.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.atiel.org/reach/introduction.
Health	:	Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. For further information see www.atiel.org/reach/introduction.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.