

GLOBAL PRODUCT STRATEGY SAFETY SUMMARY

RHEODOL TW-O106V

This document is a high-level summary provides usage of chemical substances and safety information to the general public. It is not intended to replace the Safety Data Sheet, which is available from suppliers and should be referred to for full details of recommended safety procedures for each type of use. It is not intended to replace or supersede manufacturer's instructions and warnings for their consumer products containing this substance.

1. Substance Identity

Brand Name: RHEODOL TW-O106V

Chemical Name: Polyoxyethylene (6) sorbitan monooleate

CAS Number: 9005-65-6

2. Uses and Applications

RHEODOL TW-O106V is a nonionic surfactant. It is used as an emulsifier in quasi-drugs and cosmetics.

For the industrial use, RHEODOL TW-O106V is used as an emulsifier for paper manufacturing.

3. Physical/Chemical Properties

RHEODOL TW-O106V has no identified physicochemical hazards.

| Property | Value |
|----------------|--------------------------------------------------------------------------------------|
| Physical state | Liquid |
| Color | Yellow |
| Odour | Slight characteristic odor |
| pH | 7-8 (5 % solution) |
| Density | 1.038 g/mL (20 °C)(68 °F) 1.030 g/mL (30 °C)(86 °F) 1.023 g/mL (40 °C)(104° F) |

| | |
|------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Freezing point | 7.5 °C (45.5 °F) |
| Boiling point | No information available |
| Flash point | 253 °C (487 °F) (Cleveland open cup) |
| Flammability | No information available |
| Explosive properties | No information available |
| Self – ignition temperature | No information available |
| Vapour pressure | No information available |
| Water solubility | Gel |
| Octanol-water partition coefficient (log K _{ow}) | No information available |
| Viscosity | 637 mPa·s (20 °C)(68 °F) 324 mPa·s (30 °C)(86 °F) 180 mPa·s (40 °C)(104 °F) |

4. Human Health Safety Assessment

The Short-term and repeated exposure of RHEODOL TW-O106V does not cause any toxic effects.

| Effect Assessment | Result |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Acute Toxicity oral/ dermal | No acute toxicity after oral/ dermal exposure in practical use. The substance does not cause damage to any organs following single exposure. |
| Irritation skin/ eye | Based on the available data, unlikely to cause skin/eye irritation. |
| Sensitization | Based on the available data, unlikely to cause allergic skin reaction. |
| Toxicity after repeated exposure | Unlikely to cause any toxic effects through prolonged or repeated oral exposure in practical use. |
| Mutagenicity | Based on the available data, unlikely to cause genetic defects. |
| Carcinogenicity | Based on the available data, unlikely to cause cancer. |
| Toxicity for reproduction | Based on the available data, unlikely to be damaging to fertility or the unborn child. |

5. Environmental Safety Assessment

The test results with fish, aquatic invertebrates and algae suggest that RHEODOL TW-O106V could cause harmfulness to aquatic organisms. However, RHEODOL TW-O106V is unlikely to persist in the environment because of showing the readily biodegradation. RHEODOL TW-O106V does not bioaccumulate in the food chain.

| Effect Assessment | Result |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Aquatic Toxicity | Based on the available data, likely to cause a harmfulness to aquatic organisms. |
| Biodegradation | Readily biodegradable. |
| PBT/ vPvB conclusion | Not persistent in the environment, not bioaccumulating in organisms and not toxic nor very persistent and very bioaccumulating. |

6. Exposure

Consumer

The consumer can come into contact with the substance in use of the cosmetic products, etc., but the concentration of RHEODOL TW-O106V in use is not concerned that it has a harmful effect. When it's used as the recommended use, consumer should always read product information before use and follow the label/ use instructions.

Worker

The exposure can occur either in RHEODOL TW-O106V manufacturing facilities or in the various industrial facilities when RHEODOL TW-O106V is used. Those workers in industrial operations during maintenance, sampling, testing, or other procedures could be exposed with RHEODOL TW-O106V . Only qualified and trained workers handle the undiluted substance. The manufacturing facilities offer thorough training program for employees and appropriate work processes, as well as safety equipment (goggles and gloves) in place to present an unnecessary exposure. Safety showers and eye-wash stations are accessible nearby. Workers are required to be trained in accordance with the safety measures in the Safety Data Sheet.

Environment

Since this substance is used extensively, it is discharged to waste water treatment plants from industrial sites such as manufacturing, preparation, handling, storage and use of the substance as well as from consumer households. However, the substance is readily biodegradable, so that it is removed efficiently in waste water treatment plants. The substance is biologically degraded in the surface water and is rapidly removed even if it is remained slightly in the waste water. Hence, the chronic exposure to aquatic organisms of the substance is unlikely to occur. Furthermore, the substance dose not accumulate in the food chain, so that there is no concern of human exposure through environmental pathway.

7. Risk management recommendations

When you use the substance, make sure to be measured the adequate ventilation. Always use appropriate chemical-resistant gloves to protect your hands and skin and always wear eye protection equipment. Do not eat, drink or smoke where the substance is handled, processed or stored. Wash hands and skin after contact with the substance. When the substance attaches to skin (or hair), wash with a large amount of water and soap. When it causes your skin irritation, consult doctor (medical diagnosis/therapy). If the substance gets into your eyes, rinse your eyes thoroughly for several minutes. If you wear contact lens, and

you can take it off easily, take it off and continue to rinse your eyes. If eye irritation persists, get medical help.

Waste water containing the substance must be passed the waste water treatment plants in order to remove the substance. No specific measures are needed, because it is not expected to be released into the air.

8. Regulatory Information / Classification and Labelling

Under GHS classification chemical substances are classified in hazards for physical properties, human health and environment. The hazard information for industrial products are transmitted via specific labels and Safety Data Sheet. GHS offers the standardization for hazard communication. The subjects who could be assumed to be exposed to the substance, workers, consumers, transport workers, and emergency responders, can better understand the hazards of the chemicals in use through the transmission.

Labeling according to UN GHS

UN GHS is the basis for country specific GHS labeling.

RHEODOL TW-O106V may be assigned to following GHS classification.

Classification and Labeling Information

Aquatic Acute 3

Hazard Statements:

H402: Harmful to aquatic life

The laws of manufacturing, sale, transport, use and disposal are different among countries or areas. Details are referred to Safety Data Sheet provided by the supplier.

9. Conclusion

RHEODOL TW-O106V could cause harmfulness to aquatic organisms. However, RHEODOL TW-O106V is unlikely to persist in the environment because of showing the readily biodegradation. RHEODOL TW-O106V is not applicable to PBT/vPvB. When handling the substance, workers should follow the standard safety measures and refer to the Safety Data Sheet. Consumers will usually not come into contact with the substance bulk and the substance is used diluted products, therefore, it is considered that RHEODOL TW-O106V gives rise no hazardous effects to human health.

10. Contact information within company

For further information on this substance or product safety summaries in general, please contact:

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Additional information can be found at a chemical risk assessment support portal provided by the Japan Chemical Industry Associations, found at <https://www.jcia-bigdr.jp/jcia-bigdr/en/top>.

11. Glossary

| | |
|----------------------------------------------------|--------------------------------------------------------------------------------------|
| Acute Toxicity | Adverse effects that result from a single exposure |
| Sensitization | Inducibility of allergy |
| Genotoxicity | Effects to induce gene mutations |
| Carcinogenicity | Action influence to cause a cancer |
| Toxicity for Reproduction | Adverse effects for teratogenicity, embryotoxicity, and reproductivity |
| Biodegradation | Biological degradation of a substance in environments |
| PBT (Persistent, Bioaccumulative and Toxic) | Substances that are environmentally persistent, bioaccumulative, and toxic |
| vPvB (Very Persistent and Very Bioaccumulative) | Substances with high persistence in the environment and high accumulation in ecology |
| GHS | Globally Harmonized System of Classification and Labelling of Chemicals |
| Hazard | Hazardous property for human health or environments |

12. Date of issue

December 1, 2022