SAFETY DATA SHEET
THE DOW CHEMICAL COMPANY

Product name: RHOPLEX™ R-253 Emulsion

Issue Date: 06/19/2024
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THE DOW CHEMICAL COMPANY encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: RHOPLEX™ R-253 Emulsion

Recommended use of the chemical and restrictions on use
Identified uses: This product is used in coatings, textiles, binders and adhesives.

COMPANY IDENTIFICATION
THE DOW CHEMICAL COMPANY
2211 H.H. DOW WAY
MIDLAND MI 48674
UNITED STATES

Customer Information Number: 800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: CHEMTREC +1 800-424-9300
Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Eye irritation - Category 2A
Reproductive toxicity - Category 1B

Label elements
Hazard pictograms

Signal word: **DANGER!**

Hazards
Causes serious eye irritation.
May damage fertility or the unborn child.

Precautionary statements

Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash skin thoroughly after handling.
Wear protective gloves, protective clothing, eye protection and/or face protection.

Response
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice and/or attention.
If eye irritation persists: Get medical advice and/or attention.

Storage
Store locked up.

Disposal
Dispose of contents and/or container to an approved waste disposal plant.

Other hazards
No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Acrylic emulsion
This product is a mixture.

Component	CASRN	Concentration
Acrylic polymer(s)	Not hazardous	>= 36.0 - <= 38.0 %
Succinamic acid, N-tallow-2-sulfo-, disodium salt	68988-69-2	>= 1.0 - <= 3.0 %
Aqua ammonia	1336-21-6	<= 0.2 %
Residual monomers	Not required	< 0.05 %
Water	7732-18-5	>= 59.0 - <= 63.0 %

4. FIRST AID MEASURES

Description of first aid measures
General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air and keep comfortable for breathing; consult a physician.

Skin contact: Wash off with plenty of water. Suitable emergency safety shower facility should be available in work area.

Eye contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: Rinse mouth with water. No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed:
Causes serious eye irritation. May damage fertility or the unborn child.

Indication of any immediate medical attention and special treatment needed
Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire..

Unsuitable extinguishing media: None known..

Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon dioxide.. Carbon monoxide..

Unusual Fire and Explosion Hazards: Material can splatter above 100C/212F.. Dried product can burn..

Advice for firefighters

Fire Fighting Procedures: No data available

Special protective equipment for firefighters: Wear self-contained breathing apparatus and protective suit..

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Keep people away from and upwind of spill/leak. Material can create slippery conditions.

Environmental precautions: CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

Methods and materials for containment and cleaning up: Contain spills immediately with inert materials (e.g., sand, earth). Transfer liquids and solid diking material to separate suitable containers for recovery or disposal.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Keep container tightly closed. Do not breathe vapors, mist or gas.

Conditions for safe storage: Keep from freezing - product stability may be affected. STIR WELL BEFORE USE.

Storage stability
Storage temperature: 1 - 49 °C (34 - 120 °F)
Other data: Monomer vapors can be evolved when material is heated during processing operations. See SECTION 8, for types of ventilation required. Due to the crosslinking nature of this material,this product will generate additional formaldehyde upon cure. Lack of adequate ventilation may result in airborne levels of formaldehyde above established exposure limits in the workplace. Monitoring the workplace to determine actual formaldehyde levels is recommended. Formaldehyde will be generated under acidic conditions. Maintain adequate ventilation under these conditions to prevent airborne levels of formaldehyde above established exposure limits in the workplace.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Exposure controls
Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures
Eye/face protection: Use chemical goggles.
Skin protection
Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Neoprene. Avoid gloves made of: Polyvinyl alcohol ("PVA"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.
The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	liquid
Color	white milky
Odor	Ammonia
Odor Threshold	No data available
pH	8.5 - 9.5
Melting point/range	0 °C (32 °F) Water
Freezing point	No data available
Boiling point (760 mmHg)	100.00 °C (212.00 °F) Water
Flash point	Noncombustible
Evaporation Rate (Butyl Acetate = 1)	<1.00 Water
Flammability (solid, gas)	Not Applicable
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor Pressure	17.0000000 mmHg at 20.00 °C (68.00 °F) Water
Relative Vapor Density (air = 1)	<1.0000 Water
Relative Density (water = 1)	1.0000 - 1.2000
Water solubility	partly miscible
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	Not applicable
Decomposition temperature	No data available
Dynamic Viscosity	<100.000 mPa.s
Kinematic Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Molecular weight	No data available
Percent volatility	58 - 60 % Water

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: None reasonably foreseeable.

Chemical stability: Stable

Possibility of hazardous reactions: Product will not undergo polymerization.

Conditions to avoid: No data available

Incompatible materials: There are no known materials which are incompatible with this product.

Hazardous decomposition products
No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data are available.

Information on likely routes of exposure
Ingestion, Inhalation, Skin contact, Eye contact.

Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)

Acute Toxicity Endpoints:
Not classified due to lack of data.

Acute oral toxicity

Information for the Product:

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

Based on testing for product(s) in this family of materials:
LD50, Rat, > 5,000 mg/kg

Information for components:

Acrylic polymer(s)
Single dose oral LD50 has not been determined.

Succinamic acid, N-tallow-2-sulfo-, disodium salt
Single dose oral LD50 has not been determined.

Residual monomers
Single dose oral LD50 has not been determined.

Acute dermal toxicity

Information for the Product:

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Based on testing for product(s) in this family of materials:
LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

Information for components:

Acrylic polymer(s)
The dermal LD50 has not been determined.

Succinamic acid, N-tallow-2-sulfo-, disodium salt
The dermal LD50 has not been determined.

Residual monomers
The dermal LD50 has not been determined.

Acute inhalation toxicity

Information for the Product:

Brief (minutes) exposure to vapor, mist or dust is not likely to cause adverse effects.

As product: The LC50 has not been determined.

Information for components:

Acrylic polymer(s)
The LC50 has not been determined.

Succinamic acid, N-tallow-2-sulfo-, disodium salt
The LC50 has not been determined.

Residual monomers
The LC50 has not been determined.

Skin corrosion/irritation

Not classified due to lack of data.

Information for the Product:

Based on information for component(s):
Brief contact may cause skin irritation with local redness.

Information for components:

Acrylic polymer(s)
Essentially nonirritating to skin.

Succinamic acid, N-tallow-2-sulfo-, disodium salt
Brief contact may cause skin irritation with local redness.

Residual monomers
Essentially nonirritating to skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

Information for the Product:

Based on information for component(s):
May cause eye irritation.
May cause corneal injury.

Information for components:

Acrylic polymer(s)
Essentially nonirritating to eyes.

Succinamic acid, N-tallow-2-sulfo-, disodium salt
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Residual monomers
Essentially nonirritating to eyes.

Sensitization

For skin sensitization:
Not classified due to lack of data.

For respiratory sensitization:
Not classified due to lack of data.

Information for the Product:

For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Information for components:

Acrylic polymer(s)
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Succinamic acid, N-tallow-2-sulfo-, disodium salt

For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Residual monomers
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Not classified due to lack of data.

Information for the Product:

Product test data not available.

Information for components:

Acrylic polymer(s)
Available data are inadequate to determine single exposure specific target organ toxicity.

Succinamic acid, N-tallow-2-sulfo-, disodium salt
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Residual monomers
Available data are inadequate to determine single exposure specific target organ toxicity.

Aspiration Hazard

Not classified due to lack of data.

Information for the Product:

Based on physical properties, not likely to be an aspiration hazard.

Information for components:

Acrylic polymer(s)
Based on physical properties, not likely to be an aspiration hazard.

Succinamic acid, N-tallow-2-sulfo-, disodium salt
Based on physical properties, not likely to be an aspiration hazard.

Residual monomers
Based on available information, aspiration hazard could not be determined.

Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Not classified due to lack of data.

Information for the Product:

Product test data not available.

Information for components:

Acrylic polymer(s)
No relevant data found.

Succinamic acid, N-tallow-2-sulfo-, disodium salt
No relevant data found.

Residual monomers
No relevant data found.

Carcinogenicity

Not classified due to lack of data.

Information for the Product:

Product test data not available.

Information for components:

Acrylic polymer(s)
No relevant data found.

Succinamic acid, N-tallow-2-sulfo-, disodium salt
No relevant data found.

Residual monomers
No relevant data found.

Teratogenicity

May damage fertility or the unborn child.

Information for the Product:

Product test data not available.

Information for components:

Acrylic polymer(s)
No relevant data found.

Succinamic acid, N-tallow-2-sulfo-, disodium salt
Has caused birth defects in laboratory animals.

Residual monomers

No relevant data found.

Reproductive toxicity

May damage fertility or the unborn child.

Information for the Product:

Product test data not available.

Information for components:

Acrylic polymer(s)
No relevant data found.

Succinamic acid, N-tallow-2-sulfo-, disodium salt
In animal studies, has been shown to interfere with fertility.

Residual monomers
No relevant data found.

Mutagenicity

Not classified due to lack of data.

Information for the Product:

Product test data not available.

Information for components:

Acrylic polymer(s)
No relevant data found.

Succinamic acid, N-tallow-2-sulfo-, disodium salt
No relevant data found.

Residual monomers
No relevant data found.

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data are available.

Toxicity

Acrylic polymer(s)
Acute toxicity to fish
No relevant data found.

Succinamic acid, N-tallow-2-sulfo-, disodium salt
Acute toxicity to fish

No relevant data found.

Residual monomers

Acute toxicity to fish

No relevant data found.

Persistence and degradability

Acrylic polymer(s)

Biodegradability: No relevant data found.

Succinamic acid, N-tallow-2-sulfo-, disodium salt

Biodegradability: Material is expected to be readily biodegradable.
10-day Window: Pass
Biodegradation: 69 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Residual monomers

Biodegradability: No relevant data found.

Bioaccumulative potential

Acrylic polymer(s)

Bioaccumulation: No relevant data found.

Succinamic acid, N-tallow-2-sulfo-, disodium salt

Bioaccumulation: No relevant data found.

Residual monomers

Bioaccumulation: No relevant data found.

Mobility in soil

Acrylic polymer(s)

No relevant data found.

Succinamic acid, N-tallow-2-sulfo-, disodium salt

No relevant data found.

Residual monomers

No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: Coagulate the emulsion by the stepwise addition of ferric chloride and lime. Remove the clear supernatant and flush to a chemical sewer. For disposal, incinerate or landfill at a permitted facility in accordance with local, state, and federal regulations.

Contaminated packaging: Empty containers may retain product residues and should be disposed of by an approved waste management facility. Label warnings should be followed even after container is

emptied. Improper disposal or reuse of this container may be dangerous and illegal. Consult with the respective regulating authorities to determine the available treatment and disposal facilities. All disposal practices must be in compliance with Federal, State/Provincial and local regulations.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Not regulated for transport

Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Reproductive toxicity
Serious eye damage or eye irritation

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65
WARNING: This product can expose you to chemicals including Acrylonitrile, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Hazard Rating System
HMIS

Health	Flammability	Physical Hazard
1	0	0

Revision
Identification Number: 10077651 / A001 / Issue Date: 06/19/2024 / Version: 4.1

In case this version of the SDS contains significant changes from the previous version, they are listed below. If no significant changes are displayed, then no significant changes occurred.
Changes encompass identification, hazards, tox/eco-tox information and the addition/removal of the ingredients, and regulatory information, hazard information, uses, risk management measures and other key regulatory changes of the product. Detailed explanation of the changes can be obtained upon request.

Full text of other abbreviations
AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical

Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.
US