Section 1: Identification of the substances/mixture and of the company/undertaking.

1.1 Product identifier

Product name: **SharkDispersionWX2™**

Synonyms: PVB, Polyvinylbutyraldehyde, Polyvinylbytyral, -dispersion.

Prepared by: Shark Solutions BVBA, Belgium - from a 100 % recycled PVB material.

1.2 Relevant identified uses, and uses advised against

Identified uses: Paints, Coatings
Uses advised against: None known.

1.3 Details of the supplier and the supplier of the SDS

MANUFACTURER/SUPPLIER:	SDS data:
Shark Solutions BVBA Address: Fabrieksstraat 145 BE-3900 Overpelt	**Shark Solutions ApS** Address: Industrivej 21 DK-4000 Roskilde Att: Chemist R&D / Frank Mundt +45 24 43 99 94 frank.mundt@shark-solutions.com
Head-Office: +45 30 33 06 65 (DK) Email: partner@shark-solutions.com	

Company website for further reference: www.shark-solutions.com

1.4: Emergency telephone number:

EMERGENCY PHONE: +45 24 43 99 94 / +45 24 37 10 43

Section 1 notes:

Section 2: Hazard's identification

2.1 Classification of the substance or mixture

This product is not classified as hazardous or toxic in the GHS framework.
This product has not been classified as hazardous per the present legislation in force.
This product and components hereof, including traces of contamination from waste mining resources as heavy elements, toxins, and bio traces, do not appear in TSCA, ECHA or any known national or international inventory listing of hazardous or potentially hazardous substances.

Hazard summary

Physical hazards: Not classified as hazardous.
Health hazard: None known.
Eye contact: Accidental direct splashing or accidental direct spraying in unprotected eyes will be irritating to eyes. Exposed individuals may experience eye tearing, redness and discomfort.
Skin contact: Contact to unprotected skin: No more than slightly irritating to skin. No more than slightly toxic if absorbed.
Ingestion: Accidental ingestion: No more than slightly toxic if swallowed. Significant adverse health effects are not expected to develop if only small amounts (less than a mouthful) are swallowed.
Inhalation: Accidental inhalation of vapors during drying or spray-fog from spray coat machines leads to no significant hazard if properly recommended and adjusted breathing protection is used in working surroundings.

Environmental hazards by accidental release to waterways:

Water Hazard Class: WGK 1, slightly water-endangering.
RCRA Hazard class: None known.

Acute health hazards: No significant hazards associated with this product.
Chronic health hazards: No significant hazards associated with this product.
Medical conditions generally aggravated by exposure: None known.
Potential Physical/Chemical hazard: Wet spilled material may form extremely slippery surfaces.

Emergency overview:
Low hazard for usual handling and industrial processing for trained personnel.
Routes of entry: Contact with unprotected eyes or skin and unprotected breathing.

Form: Liquid
Color: Colorless clear to white or light grey opaque, Opaque white color.
Odor: Mild to odorless

2.2 Labeling

None

2.3 Other hazards

Wet spilled material may form extremely slippery surfaces.

Section 2 notes:

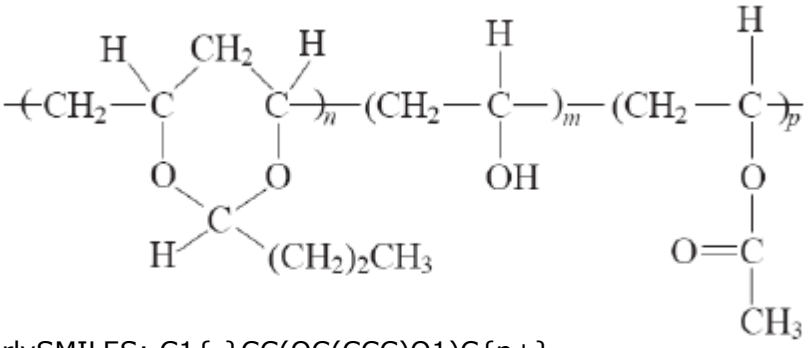
SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name: Recycled PVB, Polyvinylbutyral, Poly[(2-propyl-1,3-dioxane-4,6-diyl)methylene]

Chemical family: Polymers, dispersions

Chemical formula of polymer:

Prepared by: Shark Solutions BVBA, Belgium as a 100 % recycled material.



CurlySMILES: C1{-}CC(OC(CCC)O1)C{n+}

Components:	CAS no.	Min WT %	Max WT %	Notes
Polyvinylbutyral	63148-65-2	36	44	none
Triethyleneglycol bis (2-ethylhexanoate)	94-28-0	4	15	none
Water	7732-18-5	50	55	none
Proprietary compounds		0	5	none
Bronopol	52-51-7	0	0.00050	none
MIT (methylisothiazolinone)	2682-20-4	0	0.00007	none
CMIT (5-Chloro-2-methyl-4-isothiazolin-3-one)	26172-55-4	0	0.00007	none

Notes, if applicable:
#This substance has workplace exposure limits
PBT: Persistent, Bioakkumulative and Toxic substance
vPvB:very Persistent and very Biopaccumulative substance

Classification

Chemical name	Classification		Notes
Polyvinylbutyral, PVB	DSD	Not classified according to D 67/548/EEC	none
Polyvinylbutyral, PVB	CLP	Not Classified Regulation No. 1272/2008	none
Bronopol	GHS	Below 5.0 ppm	4.995 ppm
MIT/CMIT	GHS	Below 0.7 ppm total	0.658 ppm

The total biocide content from proprietary additives is below 6 ppm.
Specific concentrations are below 5 ppm.
Concentrations of biocides are considered subliminal.

The GHS classifications of the pure and concentrated biocides are:

Bronopol:H302,H312,H315,H318,H335,H400,P261, P264, P270, P271, P273, P280, P301+P312, P302+P352, P304+P340, P305+P351+P338, P310, P312, P321, P322, P330, P332+P313, P362, P363, P391, P403+P233, P405, and P501
MIT:H301,H311,H314,H317,H318,H330,H400,H410, P260, P261, P264, P270, P271, P272, P273, P280, P284, P301+P310, P301+P330+P331, P302+P352, P303+P361+P353, P304+P340, P305+P351+P338, P310, P312, P320, P321, P322, P330, P333+P313, P361, P363, P391, P403+P233, P405, and P501
CMIT:H300,H301+H311,H301,H310,H311,H314,H317H318,H330,H331,H335,H400,H410, P260, P261, P262, P264, P270, P271, P272, P273, P280, P284, P301+P310, P301+P330+P331, P302+P350, P302+P352, P303+P361+P353, P304+P340, P305+P351+P338, P310, P311, P312, P320, P321, P322, P330, P333+P313, P361, P363, P391, P403+P233, P405, and P501

The full text for all R-phrases, H-statements and S-statements is displayed in section 16 for the product covered in this SDS.
The product and constituents in the actual concentrations are not listed in inventories of REACH, EU(PIC),TSCA(USA), DSL (Canada), AICS (Australia), ECL (Korea), ENCS/MITI (Japan), IECSC (China), PICCS (Philippines), US(TSCA), New Zealand(NZIOC),Taiwan(TCSI), as well as GHS.

Neither the product, the product family of dispersions from Shark Solutions BVBA, nor disintegration products under non-chemical reactions, as well as proprietary components and their originating potentially harmless plant oils, are listed or is banned in either REACH/ECHA inventories, TSCA lists or in FDA context.

This regulatory status is checked every quart year, latest by June 2021.

Section 3 notes:

Section 4: First aid measures

4.1 Description of first aid measures

Eyes: The material can be removed with water. Remove contact lenses if possible and flush with plenty of water at least 30 minutes. Seek medical attention for inspection of the eye and the vicinity hereof.

Skin: Immediate first aid is not likely to be required. The material can be removed with water. Flush with plenty of water while or after removing contaminated clothes and shoes. Wash contaminated clothing before reuse. Get medical attention if symptoms arise.

Ingestion: Rinse mouth thoroughly with water and give large amounts of milk or water to people not unconscious. A physician or Poison Control Center should be contacted for advice and observation.

Inhalation: Immediate first aid is not likely to be required. Get medical attention if symptoms arise.

4.2 Most important symptoms and effects, both acute and delayed.

None known

4.3 Indication of any immediate medical attention and special treatment needed.

Hazards: None known
Treatment: Treat symptomatically

Section 4 notes:

Section 5: Fire-fighting measures

General Fire Hazards: None known

5.1 Extinguishing media

Water spray, foam, halon, dry chemical or carbon dioxide

5.2 Special Hazards

Unusual fire and explosion hazards: The dried product may form dust from abrasion and can accumulate electrostatic charges, which may form electric discharges (ignition source). Use proper electrical grounding methods where airborne dust, film flakes or powder is moved mechanically.

Hazardous decomposition products: Acrolein, crotonaldehyde, butyraldehyde, n-butanol, 2-butoxyethanol, butyric acid, methanol, formic acid, hydrocarbons, carbonmonoxide and carbondioxide.

Flammability: Dry material that must be heated locally to more than 380 °C before ignition can occur.

5.3 Advice for firefighters

Special firefighting procedures:

In case of fire: Evacuate area. Use water spray to keep fire exposed containers cool. Prevent runoff from fire control or dilution from entering streams, sewers or drinking water supply.

Special protective equipment for fire-fighters:

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Section 5 notes:

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk without suitable and completed training.
Use personal protection measures as described in section 8.

6.2 Environmental precautions: Keep out of drains and water courses.

Prevent further leakage or spillage if safe to do so. Clean up spills immediately and dispose of waste safely. Do not contaminate water sources, drainage or sewer.

6.3 Methods and material for containment and cleaning up:

In case of spill: Scoop, sweep, or vacuum and remove in a clearly labeled container for chemical waste.

In case of an accidental spill or release to the environment notify relevant authorities in accordance with all applicable regulations.

Refer to section 13 for disposal information and section 15 for reportable quantity information.

Section 6 notes:

Section 7: Handling and storage

7.1 Precautions for safe handling

Handle in accordance with good industry hygiene and safety practices to minimize dust and airspray production.
Vacuum using a wet-vacuum or a HEPA equipped vacuum cleaner.
Avoid the use of compressed air for cleaning.
Take precautionary measures to avoid electrostatic discharges.

7.2 Conditions for safe storage, including any incompatibilities.

Keep away from heat, sparks and open flame.
Empty containers or bags retain product residue. Observe all recommended safety precautions until container is cleaned, reconditioned, or destroyed. The use of this material's container for non-industrial purposes is prohibited and any reuse must be in consideration of the data provided in this SDS.
Storage: Keep the containers tightly closed. Store in a cool, dry place out of sunlight. Be aware that our dispersions once exposed to air will form a film on surface.
General: Stable under normal conditions of handling and storage.
Avoid storage near oxidizing chemicals.
Avoid contamination from air-, water- or dirt-borne sources of bacterial, algal, fungal or viral sources.
Lids, closures, or coverings must be clean.

7.3 Specific end uses

Coatings, binders, inks, adhesives, toners, and compounds.

Section 7 notes:

Section 8: Exposure controls/personal protection

8.1 Occupational exposure limits

Country specific or general exposure limits have not been established or are not applicable.

8.2 Exposure control

Ventilation:

Provide adequate ventilation. Ventilate as needed to control airborne particles levels below the occupational safety limits, typically 10 air changes per hour. If applicable use process enclosures and local exhaust ventilation.

Individual protection measures, such as personal protective equipment:

Make access to emergency eye bath station and general washing facilities.

Respiratory protection:

This material is not likely to present an airborne exposure concern under normal conditions of use. Use an approved respiratory unit, and if uncontrolled releases must be cleaned use a positive pressure respiratory system.

Eye protection:

Use good industrial practice to avoid eye contact. Wear safety glasses with side shields or goggles.

Skin protection:

Although this product does not present a significant skin concern, minimize skin contamination by following good industrial practice. Wash thoroughly with soap after handling. Wear appropriate clothing to avoid prolonged skin-contact and wash clothes regularly.
Wearing protective gloves is recommended.

Respiratory protection:

An air-purifying respirator with an appropriate approved air purifying filter, cartridge or canister is recommended to be used when spray-techniques are applied.

Exposure guidelines: Airborne exposure limits: (ml/m3 = ppm) OSHA and/or ACGIH have not established specific exposure limits for this material. However, they have established limits for particulates not otherwise regulated (PNOR) and particulates not otherwise classified (PNOC) respectively, which are the least stringent exposure limits applicable to airborne particles:

ACGIH TLV: 10mg/m3 (total dry dust) 8-hr TWA
ACGIH TLV: 3mg/m3 (respirable) 8-hr TWA
OSHA Z-1 PEL: 15mg/m3 (total dry dust) 8-hr TWA
OSHA Z-1 PEL: 5mg/m3 (respirable) 8-hr TWA

Hygiene measures:

Observe good industrial hygiene practices and avoid cross contamination of batches.

Environmental controls:

No data available.

Section 8 notes:

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: Milky white to grey opaque liquid.
Odor: Odorless

Physical state: Liquid

Specific gravity – condensed material (H2O = 1): 1.03 @ 20 °C

Auto ignition temperature: not applicable for dispersion, for dry content alone > 380°C

Flash Point: not applicable for dispersion, if individual constituents are considered alone the TEG plasticizer has a flashpoint of 199 °C (Pensky-Martens Closed Cup)

Solubility in water: Mixable but may separate and aggregate if pH changes by dilution.

Additional technical information is available by requiring the technical data sheet, TDS.

Section 9 notes:

Section 10: Stability and reactivity

10.1 Reactivity

Stability: Stable under normal conditions.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

None under normal conditions.

10.4 Conditions to avoid.

All sources of ignition and strong oxidizers. All kinds of leaking of the containers.

10.5 Incompatibility

Strong oxidizing agents, acids and salts containing cations with a considerable ionic strength.

10.6 Hazardous decomposition or by-products when heated to decomposition.

Butyraldehyde; butyric acid; acrolein; crotonaldehyde; methanol; formic acid; carbon monoxide; carbon dioxide

10.7 Hazardous polymerization

Hazardous polymerization does not occur.

Section 10 notes:

Section 11: Toxicological information

This product has not been tested for toxicity, but data obtained on similar and individual products are summarized below:

Information on likely routes of exposure:
Inhalation: None known
Ingestion: None known
Skin contact: None known.
Eye contact. None known.

11.1 Information on toxicological effects

Acute toxicity

Oral:
Product: No data available
Specified substances:
PVB: Oral LD50: (rat)>10000mg/kg Not classified for acute toxicity on available data

Results of single exposure (acute) toxicity studies conducted on similar materials indicate that these products are practically nontoxic orally and after skin application.

Section 11 notes:

Section 12: Ecological information

Shark Solutions ApS has not conducted environmental toxicity, accumulation, mobility or biodegradation studies with this material, but recommends extensive use of recycling techniques for the product and the waste products by suitable processes and waste handling channels.

Section 12 notes:

Section 13: Disposal considerations

13.1 Waste treatment methods

Disposal considerations: Incineration or Recycling.
This product should not be dumped, spilled, rinsed or washed into sewers or public waterways.

RCRA hazard class: None known.

Section 13 notes:

Section 14: Transport information

Dangerous goods ADR	Status: No	Class not regulated
Dangerous goods RID	Status: No	Class not regulated
Dangerous goods IMDG	Status: No	Class not regulated
Dangerous goods ICAO/IATA	Status: No	Class not regulated

GHS, not dangerous, nonflammable and nontoxic – no regulatory status.

Section 14 notes:

Section 15: Regulatory information

The product complies with REACH, TSCA (USA), EU(PIC), DSL (Canada), AICS/NICNAS (Australia), ECL (Korea), ENCS/MITI (Japan), IECSC (China), PICCS (Philippines), US(TSCA), China(IECSC), New Zealand(NZIOC), Taiwan(TCSI) as well as GHS.

Neither the product, the product family of dispersions from Shark Solutions BVBA, nor disintegration products under non-chemical reactions, as well as proprietary components and their originating potentially harmful plant or mineral oils, are listed as potentially harmful or is banned in either REACH/ECHA inventories, TSCA lists or in FDA context.

This regulatory status is checked every half year, latest by June 2021.

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

Water Hazard Class (WGK): WGK 1: Slightly water-endangering

15.2 Chemical safety assessment

None.

Section 15 notes:

Section 16: Other information

Revision information: **version 5**
Issue date: **10.06.2021**

Key literature references and sources for PVB data:

https://www.routledgehandbooks.com/doi/10.1201/b19190-4

Wording of the R-phrases, H-statements, S-statements and EUH labelling in section 2 and 3:

None.

Training information:

No data available

Disclaimer:

Shark PVB is a 100 % recycled product from industrial waste, manufactured under intensive care and quality control, ensuring that no other supply chain of not controlled raw material is introduced in the finished recycled product.

The information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof.

Shark Solutions ApS or Shark Solutions Group makes no representations as to the completeness or accuracy hereof. Information is supplied upon the condition, that the persons receiving same, will make their own determination as to its suitability for their purposes prior to use. In no event will Shark Solutions ApS or Shark Solutions Group be responsible for damages of any nature whatsoever, resulting from the use of or reliance upon information.

NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH THIS INFORMATION REFERS.

This information should be used to make an independent and local determination of the methods to safeguard workers and the environment.

Section 16 notes: