AkzoNobel

SAFETY DATA SHEET

F 69 TUK GREY BAC 707

In accordance with the Standard for Classification and Labeling of Chemical Substance and Safety Data Sheet, Article 10 Paragraph 1

Section 1. Chemical product and company identification

A. Product name : F 69 TUK GREY BAC 707

SDS code : 21069000K

B. Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Paint. Professional use Industrial use

Uses advised against
All other uses

Product use : Two component coating for interior use.

C. Supplier's details

MAPAERO SAS
10, Avenue de la Rijole CS30098
09103 PAMIERS Cedex
France

e-mail address of person responsible for this SDS : PSRA_PAMIERS@akzonobel.com

Emergency telephone number (with hours of operation) : +33 (0)5 34 01 34 01
+33 (0)5 61 60 23 30

Section 2. Hazards identification

A. Hazard classification : FLAMMABLE LIQUIDS - Category 3
CORROSIVE TO METALS - Category 1
SKIN CORROSION/IRRITATION - Category 1
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SKIN SENSITIZATION - Category 1
GERM CELL MUTAGENICITY - Category 2
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION - Category 1B
AQUATIC HAZARD (LONG-TERM) - Category 2

This product is classified in accordance with the Industrial Safety and Health Act and the Chemical Control Act.

B. GHS label elements, including precautionary statements

Section 2. Hazards identification

Symbol :

Signal word : Danger

Hazard statements : H226 - Flammable liquid and vapor.
H290 - May be corrosive to metals.
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H341 - Suspected of causing genetic defects.
H351 - Suspected of causing cancer.
H360 - May damage fertility or the unborn child.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : P201 - Obtain special instructions before use.
P280 - Wear protective gloves, protective clothing and eye or face protection.
P210 - Keep away from heat, sparks and hot surfaces. No smoking.
P241 - Use explosion-proof electrical, ventilating or lighting equipment.
P242 - Use non-sparking tools.
P243 - Take action to prevent static discharges.
P234 - Keep only in original packaging.
P273 - Avoid release to the environment.
P261 - Avoid breathing vapor.

Response : P391 - Collect spillage.
P390 - Absorb spillage to prevent material damage.
P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P304 + P310 - IF INHALED: Immediately call a POISON CENTER or doctor.
P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor.
P363 - Wash contaminated clothing before reuse.
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Storage : P403 + P235 - Store in a well-ventilated place. Keep cool.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

C. Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Section 3. Composition/information on ingredients

Ingredient name	Identifiers	%
titanium dioxide	CAS: 13463-67-7	≥20 - <25
butan-2-ol	CAS: 78-92-2	≥15 - <20
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin	CAS: 25068-38-6	≥10 - <20
nitroethane	CAS: 79-24-3	≥10 - <20
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with 2-(chloromethyl) oxirane	CAS: 30499-70-8	<10
Terphenyl, hydrogenated	CAS: 61788-32-7	<10
zinc oxide	CAS: 1314-13-2	≥1 - <5
Talc , not containing asbestiform fibres	CAS: 14807-96-6	<10
Amines, polyethylenepoly-, triethylenetetramine fraction	CAS: 90640-67-8	<10
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	CAS: 2530-83-8	<10
aluminium hydroxide	CAS: 21645-51-2	≥1 - <5
propylidynetrimethanol	CAS: 77-99-6	<10
lead monoxide	CAS: 1317-36-8	<0.1
cadmium oxide	CAS: 1306-19-0	<0.1

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 and hence require reporting in this section.

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

Section 4. First aid measures

A. Eye contact : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.

B. Skin contact : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

C. Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

D. Ingestion : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. 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.

Section 4. First aid measures

E. Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

A. Extinguishing media

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

Unsuitable extinguishing media : Do not use water jet.

B. Specific hazards arising from the chemical : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
phosphorus oxides
halogenated compounds
metal oxide/oxides

C. 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.

Special precautions 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Section 6. Accidental release measures

A. Personal precautions, protective equipment and emergency procedures : 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 spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

B. Environmental precautions : Avoid dispersal of spilled 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

C. Methods and materials for containment and cleaning up

Section 6. Accidental release measures

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb spillage to prevent material damage. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

A. Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container. Absorb spillage to prevent material damage.

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.

B. Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. 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. Store in a corrosion resistant container with a resistant inner liner. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep away from metals. 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

A. Control parameters

Occupational exposure limits

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
titanium dioxide	**Ministry of Employment and Labor (Republic of Korea, 1/2020).** TWA: 10 mg/m³ 8 hours. Form: total dust with less than 1% of free SiO2
butan-2-ol	**Ministry of Employment and Labor (Republic of Korea, 1/2020).** STEL: 150 ppm 15 minutes. TWA: 100 ppm 8 hours.
nitroethane	**Ministry of Employment and Labor (Republic of Korea, 1/2020).** TWA: 100 ppm 8 hours.
Terphenyl, hydrogenated	**Ministry of Employment and Labor (Republic of Korea, 1/2020).** TWA: 0.5 ppm 8 hours.
lead monoxide	**Ministry of Employment and Labor (Republic of Korea, 1/2020). Notes: as Pb** TWA: 0.05 mg/m³, (as Pb) 8 hours. Form: Dust and fumes
cadmium oxide	**Ministry of Employment and Labor (Republic of Korea, 1/2020).** TWA: 0.002 mg/m³, (as Cd) 8 hours. Form: Respirable fraction TWA: 0.01 mg/m³, (as Cd) 8 hours.

B. Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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.

C. Personal protective equipment

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.

Eye 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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

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.

Section 8. Exposure controls/personal protection

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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 9. Physical and chemical properties

A. Appearance

Physical state : Liquid.

Color : Gray.

B. Odor : Characteristic.

C. Odor threshold : Not available.

D. pH : Not available.

E. Melting/freezing point : Not available.

F. Boiling point/boiling range : Not available.

G. Flash point : Closed cup: 25°C (77°F)

Fire point : Not available.

H. Evaporation rate : Not available.

I. Flammability (solid, gas) : Not available.

J. Lower and upper explosive (flammable) limits : Greatest known range: Lower: 1.7% Upper: 9% (butan-2-ol)

K. Vapor pressure : Not available.

L. Solubility : Insoluble in the following materials: cold water.

Solubility in water : Not available.

M. Vapor density : Highest known value: 7.95 (Air = 1) (Terphenyl, hydrogenated). Weighted average: 2.78 (Air = 1)

N. Density : 1.352 g/cm³

O. Partition coefficient: n-octanol/water : Not available.

P. Auto-ignition temperature : Not available.

Q. Decomposition temperature : Not available.

R. Viscosity : Kinematic (room temperature): 4.07 cm^2/s (407 cSt)
Kinematic (40°C (104°F)): 1.01 cm^2/s (101 cSt)

Flow time (ISO 2431) : Not available.

S. Molecular weight : Not applicable.

Section 10. Stability and reactivity

A. Chemical stability : The product is stable.

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

B. Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

C. Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials
metals

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

Section 11. Toxicological information

A. Information on the likely routes of exposure : Not available.

Potential acute health effects

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Eye contact : Causes serious eye damage.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

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

B. Health hazards

Acute toxicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
butan-2-ol	LC50 Inhalation Gas.	Rat	8000 ppm	4 hours
	LC50 Inhalation Vapor	Rat	48500 mg/m³	4 hours
	LD50 Intraperitoneal	Guinea pig	1067 mg/kg	-
	LD50 Intraperitoneal	Mouse	771 mg/kg	-
	LD50 Intraperitoneal	Rabbit	277 mg/kg	-
	LD50 Intraperitoneal	Rat	1193 mg/kg	-
	LD50 Intravenous	Mouse	764 mg/kg	-
	LD50 Intravenous	Rat	138 mg/kg	-
	LD50 Oral	Rabbit	4893 mg/kg	-
	LD50 Oral	Rabbit	4890 mg/kg	-
	LD50 Oral	Rat	2193 mg/kg	-
	LD50 Oral	Rat	2054 mg/kg	-
nitroethane	LD50 Intraperitoneal	Mouse	310 mg/kg	-
	LD50 Oral	Mouse	860 mg/kg	-
	LD50 Oral	Rat	1100 mg/kg	-
Terphenyl, hydrogenated	LD50 Oral	Mouse	12500 mg/kg	-
	LD50 Oral	Rat	17500 mg/kg	-
	LD50 Oral	Rat	>24000 mg/kg	-
	LD50 Oral	Rat	>10000 mg/kg	-
zinc oxide	LD50 Intraperitoneal	Rat	240 mg/kg	-
	LD50 Oral	Mouse	7950 mg/kg	-
[3-(2,3-epoxypropoxy) propyl]trimethoxysilane	LD50 Dermal	Rabbit	3970 uL/kg	-
	LD50 Oral	Rat	7.01 g/kg	-
	LD50 Oral	Rat	22600 uL/kg	-
propylidynetrimethanol	LD50 Oral	Mouse	13700 mg/kg	-
	LD50 Oral	Mouse	14000 mg/kg	-
	LD50 Oral	Rat	14100 mg/kg	-
	LD50 Oral	Rat	14000 mg/kg	-
lead monoxide	LD50 Intraperitoneal	Mouse	217 mg/kg	-
cadmium oxide	LC50 Inhalation Vapor	Guinea pig	3500 mg/m³	10 minutes
	LC50 Inhalation Vapor	Mouse	250 mg/m³	2 hours
	LC50 Inhalation Vapor	Rabbit	2500 mg/m³	10 minutes
	LC50 Inhalation Vapor	Rat	45 mg/m³	1 hours
	LD50 Intraperitoneal	Rat	12 mg/kg	-
	LD50 Intravenous	Rat	25 mg/kg	-
	LD50 Oral	Mouse	67 mg/kg	-
	LD50 Oral	Rat	72 mg/kg	-
	LD50 Subcutaneous	Mouse	94 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
butan-2-ol	Eyes - Severe irritant	Rabbit	-	0.1 Ml	-
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin	Eyes - Mild irritant	Rabbit	-	100 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 Ul	-
	Skin - Severe irritant	Rabbit	-	24 hours 2 mg	-
zinc oxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
[3-(2,3-epoxypropoxy) propyl]trimethoxysilane	Eyes - Mild irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
lead monoxide	Skin - Mild irritant	Rabbit	-	24 hours 100 mg	-

Section 11. Toxicological information

Sensitization

Not available.

CMR - ISHA Article 42 Occupational Exposure Limits

Product/ingredient name	Identifiers	Classification
titanium dioxide	CAS: 13463-67-7	CARCINOGENICITY - Category 2
lead monoxide	CAS: 1317-36-8	CARCINOGENICITY - Category 1B TOXIC TO REPRODUCTION - Category 1A
cadmium oxide	CAS: 1306-19-0	GERM CELL MUTAGENICITY - Category 2 CARCINOGENICITY - Category 1A TOXIC TO REPRODUCTION - Category 2

Mutagenicity

Product/ingredient name	Test	Experiment	Result
cadmium oxide	-	Subject: Mammalian-Animal	Positive

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP	ACGIH
titanium dioxide	-	2B	-	A4
Talc , not containing asbestiform fibres	-	3	-	A4
aluminium hydroxide	-	-	-	A4
lead monoxide	-	2A	Reasonably anticipated to be a human carcinogen.	A3
cadmium oxide	+	1	Known to be a human carcinogen.	A2

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
butan-2-ol	Category 3 Category 3	-	Respiratory tract irritation Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
lead monoxide	Category 2	-	-
cadmium oxide	Category 1	-	-

Aspiration hazard

Not available.

Potential chronic health effects

Chronic toxicity

Not available.

Section 11. Toxicological information

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : Suspected of causing genetic defects.

Reproductive toxicity : May damage fertility or the unborn child.

Section 12. Ecological information

A. Ecotoxicity

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute EC50 19.3 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute EC50 27.8 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute EC50 35.306 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 3 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 13.4 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 11 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 3.6 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 15.9 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 6.5 mg/l Fresh water	Daphnia - Daphnia pulex - Neonate	48 hours
	Acute LC50 13 mg/l Fresh water	Daphnia - Daphnia pulex - Neonate	48 hours
	Acute LC50 >1000 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours
butan-2-ol	Acute EC50 4227 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 3670000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
zinc oxide	Acute EC50 1 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute EC50 0.622 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute EC50 0.481 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1.25 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 98 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 2246000 µg/l Fresh water	Fish - Pimephales promelas - Neonate	96 hours
	Acute LC50 1.1 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 3.969 mg/l Fresh water	Fish - Danio rerio - Adult	96 hours
	Acute LC50 2.525 mg/l Fresh water	Fish - Danio rerio - Adult	96 hours
propylidynetrimethanol	Acute EC50 13000000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 14400000 µg/l Marine water	Fish - Cyprinodon variegatus	96 hours
lead monoxide	Acute LC50 388000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 132 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 3486000 µg/l Fresh water	Fish - Pimephales promelas - Neonate	96 hours

Section 12. Ecological information

	Acute LC50 298 µg/l Fresh water	Fish - Pimephales promelas - Neonate	96 hours
	Acute LC50 3562000 µg/l Fresh water	Fish - Pimephales promelas - Neonate	96 hours
	Acute LC50 3841000 µg/l Fresh water	Fish - Pimephales promelas - Neonate	96 hours
	Acute LC50 3963000 µg/l Fresh water	Fish - Pimephales promelas - Neonate	96 hours
cadmium oxide	Acute LC50 3280 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 0.0054 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 9350 µg/l Fresh water	Fish - Pimephales promelas - Neonate	96 hours
	Acute LC50 177 µg/l Fresh water	Fish - Pimephales promelas - Neonate	96 hours
	Acute LC50 7029 µg/l Fresh water	Fish - Pimephales promelas - Neonate	96 hours
	Acute LC50 9920 µg/l Fresh water	Fish - Pimephales promelas - Neonate	96 hours
	Acute LC50 10470 µg/l Fresh water	Fish - Pimephales promelas - Neonate	96 hours

B. Persistence and degradability

Not available.

C. Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
butan-2-ol	0.61	-	low
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin	2.64 to 3.78	31	low
nitroethane	0.18	-	low
Terphenyl, hydrogenated	-	5200	high
zinc oxide	-	28960	high
Amines, polyethylenepoly-, triethylenetetramine fraction	-2.65	-	low
propylidynetrimethanol	-0.47	<1	low
cadmium oxide	-	1345	high

D. Mobility in soil

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

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

Section 13. Disposal considerations

A. Disposal methods : The generation of waste should be avoided or minimized 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Section 13. Disposal considerations

B. Disposal 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. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	UN	IMDG	IATA
A. UN number	UN3469	UN3469	UN3469
B. UN proper shipping name	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE
C. Transport hazard class(es)	3 (8) 	3 (8) 	3 (8) 
D. Packing group	III	III	III
E. Environmental hazards	Yes. The environmentally hazardous substance mark is not required.	Marine Pollutant(s): reaction product: bisphenol-A-(epichlorhydrin); epoxy resin, 1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with 2-(chloromethyl)oxirane	Yes. The environmentally hazardous substance mark is not required.

Additional information

IMDG : **Emergency schedules** F-E, S-C
The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

F. 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.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

A. Regulation according to ISHA

ISHA article 117 (Harmful substances prohibited from manufacture) : None of the components are listed.

ISHA article 118 (Harmful substances requiring permission) : None of the components are listed.

Article 2 of Youth Protection Act on Substances Hazardous to Youth : Not applicable.

Exposure Limits of Chemical Substances and Physical Factors

Section 15. Regulatory information

The following components have an OEL:
titanium dioxide
butan-2-ol
nitroethane
Terphenyl, hydrogenated
lead monoxide
cadmium oxide

ISHA Enforcement Regs Annex 19 (Exposure standards established for harmful factors) : The following components are listed: Lead and its inorganic compounds, Cadmium and its compounds

ISHA Enforcement Regs Annex 21 (Harmful factors subject to Work Environment Measurement) : The following components are listed: titanium dioxide, aluminum and its compounds, 2-butanol, zinc oxide, talc; soapstone

ISHA Enforcement Regs Annex 22 (Harmful Factors Subject to Special Health Check-up) : The following components are listed: Aluminum and its compounds, 2-Butanol, Zinc oxide

Standard of Industrial Safety and Health Annex 12 (Hazardous substances subject to control) : The following components are listed: titanium dioxide, aluminum and its compounds, 2-butanol, zinc and its compounds

B. Regulation according to Chemicals Control Act

CCA Article 11 (TRI) : The following components are listed: Aluminium and its compounds, 4,4'-(1-Methylethylidene) bisphenol polymer with (chloromethyl)oxirane, Zinc and its compounds

CCA Article 18 Prohibited (K-Reach Article 27) : None of the components are listed.

CCA Article 19 Subject to authorization (K-Reach Article 25) : None of the components are listed.

CCA Article 20 Toxic Chemicals (K-Reach Article 20) : Not applicable

CCA Article 20 Restricted (K-Reach Article 27) : None of the components are listed.

CCA Article 39 (Accident Precaution Chemicals) : None of the components are listed.

Existing Chemical Substances Subject to Registration : The following components are listed: 4,4'-(1-Methylethylidene)bisphenol polymer with (chloromethyl)oxirane, Zinc oxide, Lead monoxide, Cadimium oxide, Quartz, Triphenyl phosphite

C. Dangerous Materials Safety Management Act : **Class:** Class 4 - Flammable Liquid
Item: 4. Class 2 petroleums - Water-insoluble liquid
Threshold: 1000 L
Danger category: III
Signal word: Contact with sources of ignition prohibited

D. Wastes regulation : Dispose of contents and container in accordance with all local, regional, national and international regulations.

E. Regulation according to other foreign laws

Section 15. Regulatory information

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

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.

Section 16. Other information

A. References : Not available.

B. Date of issue/Date of revision : 1 November 2022

C. Version : 2.01

Unique ID :

Date of printing : **1 November 2022**

D. Other

Indicates information that has changed from previously issued version.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

Notice to reader

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