FARIDA BIS[1-(TERT-BUTYLPEROXY)-1-METHYLETHYL]BENZENE 40%

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product label name : FARIDA Bis[1-(tert-butylperoxy)-1-methylethyl]benzene 40%, FARIDA BIPB 40A, FARIDA BIPB-40B **Chemical name** : Bis[1-(tert-butylperoxy)-1-methylethyl]benzene 40% with Calcium Carbonate and Silica
Company: Hunan Farida Technology Corporation ltd. 175#, Kangping Rd., Changsha Bio& Information Industry Park, Hunan, China Postal code : 410331 Tel : +86-731-83282288 Fax: +86-731-83281399 www.frdtech.com
Emergency telephone Hunan Farida Technology Corporation ltd. Tel : +86-731-83285218 (Available outside office hours)
Use of the Substance/Mixture Specific use(s): Cross-linking agent.
Date of last issue / Revision 2021/01/01

2. HAZARDS IDENTIFICATION

GHS classification	
Flammable solids	Category 1
Organic peroxide	Type G
Chronic aquatic toxicity,	category 4

GHS Label element	
Hazard pictograms	
Signal word	Danger
Hazard statements	H228 Flammable solid. H413. May cause long lasting harmful effects to aquatic life.
Precautionary statement	
Prevention	
Code	Description
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof equipment.
P273	Avoid release to the environment.
Response:	
P370+P378 In case of fire: use dry sand, dry chemical or alcohol-resistant form to extinguish.	
Disposal	
P501	Dispose of contents and container according to local regulation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Mixture

Hazardous substance

No.	% w/w	CAS-No.	EC-No.	Chemical name	REACH registration number	Classification according to Regulation (EC) No 1278/2008 (CLP)
1	39-41	25155-25-3	246-678-3	Bis[1-(tert-butylperoxy)-1-methylethyl]benzene	01-2119495677-17-0002	Org. Perox. D; H242 Aquatic Chronic 4; H413

4. FIRST AID MEASURES

General advice
Move out of the dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

Inhalation
If breathed in, move into fresh air. If symptoms persist, call a physician.

Skin
Take off contaminated clothing and shoes immediately.
Wash the skin immediately with soap and water.

Eye
Rinse with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing the entire. If eye irritation persists, consult a specialist.

Ingestion
Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious or convulsing person. If symptoms persist, call a physician.

Notes to physician

symptoms
The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.
Treatment
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Water spray, alcohol-resistant foam, dry chemical or CO_2.

Unsuitable extinguishing media
High volume water jet.

Specific hazards during firefighting/ Specific hazards arising from the chemical
CAUTION: Re-ignition may occur.
Specific hazards during firefighting/Special hazards arising from the chemical:
Supports combustion.
Water spray may be ineffective unless used by experienced firefighters.
Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous decomposition product formed under fire conditions.

Combustion products
Fire will produce smoke containing hazardous combustion products (see section 10).

Special protective equipment for firefighters
In the event of fire, wear self-contained breathing apparatus.

Further information
Use water spray to cool unopened containers.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Ensure adequate ventilation.
Remove all sources of ignition.

Emergency measures on accidental release:
Evacuate personnel to safe areas. Only qualified personnel equipped with suitable protective equipment may

intervene. Prevent unauthorized persons entering the zone.
Environmental precautions Prevent product from entering drains. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods for cleaning up/ Methods for containment Keep wetted with water. Soak up with inert absorbent material and dispose of as hazards waste. Confinement must be avoided. Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal. Never return spills in original containers for re-use.
Additional advice For personal protection see section 8.

7. HANDLING AND STORAGE

Handling **Advice on safe handing** For personal protection see section 8. Do not smoke. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.
Advice on prevention against fire and explosion Use explosion protected equipment. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps). Do not cut or weld on or near this container even when empty. Keep away from combustible material
Temperature class It is recommended to use electrical equipment of temperature group T3. However, auto-ignition can never be excluded.
Storage Requirements for storage areas and containers: Keep only in original container. Store away from other materials. Maximum storage temperature: 30℃.
Other data No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Occupational exposure limits of decomposition products

Decomposition products	CAS-No.	Value	Control parameters	Update	Basis	Form of exposure
Acetone	67-64-1	PC-TWA	300 mg/m^3	2002-04-08	GBZ 2.1-2007	
		PC-STEL	450 mg/m^3	2002-04-08	GBZ 2.1-2007	

Appropriate engineering controls Explosion proof ventilation recommended.
Personal protection equipment
Respiratory protection Handle in accordance with good industrial hygiene and safety practice.
Hand protection Wear suitable protective gloves of neoprene or butyl-rubber.
Eye protection Tightly fitting safety goggles
Skin and body protection protective suit
Hygiene measures Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Environmental exposure controls

General advice Prevent product from entering drains. If the product contaminates rivers and lakes or drains inform respective authorities.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	FARIDA BIPB40A: White granules FARIDA BIPB40B: White powder Fine powder
Color	Off white
Odor	Faint
Odor threshold	No data available
Safety data	
Ph value	Neutral
Boiling point/range	Decomposes below the boiling point.
Melting point/range	Decomposes before melting.
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability(solid, gas)	The substance or mixture is a flammable solid with the category 1.
Flammability(liquids)	Not applicable
Upper explosion limit	No data available
Lower explosion limit	No data available
Vapour pressure	Not applicable
Relative vapour density	Not applicable
Relative density	1.6 at 20℃
Bulk density	Powder: 530 kg/m^3 (20°C / 68°F) Specific gravity = 0.53(20° C / 68°F) Granule: 670 kg/m3 (20°C / 68°F) Specific gravity = 0.67(20° C / 68°F)
Water solubility	Insoluble (20°C / 68°F)
Solubility in other solvents	Partly soluble in most organic solvents
Partition coefficient n-octanol/water	No data available
Auto-ignition temperature	Test method not applicable.
Decomposition temperature	SADT-(Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT.
Self-accelerating decomposition temperature (SADT)	80° C.
Self-accelerating polymerization temperature (SAPT)	No data available
Viscosity, dynamic	Not applicable
Viscosity, kinematic	Not applicable
Explosive properties	Not explosive
Oxidizing properties	Not classified as oxidizing
Active oxygen content	3.68-3.87%
Organic Peroxide content	39-41%
This safety datasheet only contains information relating to safety and does not replace any product Information or product specification.	

10. STABILITY AND REACTIVITY

Stability
Conditions to avoid Heat, flame and sparks.
Materials to avoid Contact with the following incompatible materials will result in hazardous decomposition: Acids and bases Iron Copper Reducing agents Heavy metals Rust Do not mix with peroxide accelerators, unless under controlled processing. Use only Stainless steel 316, PP, polyethylene or glass-lined equipment. Contact Hunan FARIDA for more information. For queries regarding the suitability of other materials please contact the supplier.
Hazardous decomposition products Carbon Oxides Para-Diisopropanolbenzene tert-Butanol Acetone Methane Diacetylbenzene Meta-Diisopropanolbenzene
Thermal decomposition SADT (Self accelerating decomposition temperature)is the lowest temperature at which self-accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT.
Reactivity Stable under normal conditions. **Chemical stability** Stable under recommended storage conditions. **Hazardous reactions** **No dangerous reaction known under conditions of normal use.** **SADT (Self accelerating decomposition temperature): 80°C.**

11. TOXICOLOGICAL INFORMATION

PRODUCT INFORMATION	
Hazard Summary	
Inhalation	Not expected to be irritating.
Skin	Not expected to be irritating.
Eyes	Not expected to be irritating.
Ingestion	Not expected to be irritating.
Toxicology Assessment Further information: No further information data available	
TOXICOLOGY DATA FOR THE COMPONENTS:	
Component: Bis[1-(tert-butylperoxy)-1-methylethyl]benzene	
Acute oral toxicity: LD_{50}>2000 mg/kg Species: Rat No mortality observed at this dose.	
Acute Dermal toxicity: Dermal LD_{50}>2000 mg/kg Species: Rat Method: OECD Test Guideline 402	
Skin irritation Result: No skin irritation Method: OECD Test Guideline 404	
Eye irritation	

Result: No eye irritation Method: OECD Test Guideline 405
Germ cell mutagenicity
Genotoxicity in vitro: Ames test: result: negative Genotoxicity in vivo: result: Not mutagenic Reproductive toxicity/Development/Teratog enicity: Test type: Embryo-foetal development Species: Rat, female Strain: wistar Application Route: Oral Dose: 0, 100, 300, 1000 mg/kg General Toxicity Maternal: No observed adverse effect level: 300mg/kg body weight Embryo-foetal toxicity: No observed adverse effect level: 300mg/kg body weight Method: OECD Test Guideline 414 GLP:YES Target Organ Systemic Toxicant- Repeated exposure: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Aspiration toxicity: No aspiration toxicity classification

12. ECOLOGICAL INFORMATION

PRODUCT INFORMATION
Ecotoxicology Assessment Additional ecological information: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. May cause long lasting harmful effects to aquatic life.
COMPONENTS:
Ecotoxicology assessment **Component: Bis[1-(tert-butylperoxy)-1-methylethyl]benzene**
Acute aquatic toxicity: This product has no known ecotoxicological effects. Chronic aquatic toxicity: May cause long lasting harmful effects to aquatic life. Additional ecological information: None known
Test result
Component: Bis[1-(tert-butylperoxy)-1-methylethyl]benzene
Ecotoxicity effects **Toxicity to fish**: LC_{50}: 750MG/L Exposure time: 96h **Toxicity to daphnia and other aquatic invertebrates**: EC0: > 1 mg/l Exposure time: 48h Method: Directive 67/548/EEC, Annex V, C.2. No toxicity at the limit of solubility. **Toxicity to algae**: EC0: > 1 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (green algae) Test Type: static test Method: OECD Test Guideline 201 No toxicity at the limit of solubility **Toxicity to bacteria**: NOEC: > 1000 mg/l Exposure time: 0.5 h Species: activated sludge Test Type: Respiration inhibition Method: Domestic OECD Test Guideline 209
Elimination information (persistence and degradability) Bioaccumulation: No Bioaccumulation is expected Biodegradability: Result: Not readily biodegradable. Method: OECD Test Guideline 301D. Not readily biodegradable. Read-across from supporting substance (structural analogue or surrogate).

13. DISPOSAL CONSIDERATIONS

Product The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Hazardous waste Disposal of contents/container in accordance with regulations
Contaminated packaging Empty remaining contents. Dispose of as unused product. Do not burn, or use a cutting torch on, the empty container.

Due to the high risk of contamination recycling/recovery is not recommended. Follow all warnings even after the container is emptied.

14. TRANSPORT INFORMATION

International Regulation

Land transport (ADR/RID)	
ADR class	4.1
Packing group	Ⅱ
RID class	4.1
UN number	UN1325
Proper Shipping Name	FLAMMABLE SOLID, ORGANIC, N.O.S. (Bis[1-(tert-butylperoxy)-1-methylethyl]benzene)
Labels	4.1
Sea transport (IMDG-code/IMO)	
UN number	UN1325
Proper Shipping Name	FLAMMABLE SOLID, ORGANIC, N.O.S. (Bis[1-(tert-butylperoxy)-1-methylethyl]benzene)
Class	4.1
Packing group	Ⅱ
Labels	4.1
EMS Code	F-A, S-G
Marine pollutant	no
Air transport (ICAO-TI/IATA-DGR)	
UN number	UN1325
Proper Shipping Name	FLAMMABLE SOLID, ORGANIC, N.O.S. (Bis[1-(tert-butylperoxy)-1-methylethyl]benzene)
Class	4.1
Packing group	Ⅱ
Labels	4.1
Packing instruction(cargo aircraft)	448
Packing instruction(passenger aircraft)	445
Packing instruction(LQ)	Y441
Environmentally hazardous	no

15. REGULATORY INFORMATION

Notification status	
TSCA	YES. All chemical substances in this product are either listed on the TSCA Inventory or in compliance with a TSCA Inventory exemption.
DSL	YES. All components of this product are on the Canadian DSL
AICS	YES. On the inventory, or in compliance with the inventory.
NZIoC	NO. On the inventory, or in compliance with the inventory.
ENCS	NO. Not in compliance with the inventory.
ISHL	YES. On the inventory, or in compliance with the inventory.
KECI	YES. On the inventory, or in compliance with the inventory.
PICCS	YES. On the inventory, or in compliance with the inventory.
IECSC	YES. On the inventory, or in compliance with the inventory.
For explanation of abbreviation: see section 16.	
National regulatory information	

16. OTHER INFORMATION

Full text of H-Statements	
H242	Heating may cause a fire.
H413	May causes long lasting harmful effects to aquatic life

Full text of other abbreviations
AICS-Australian Inventory of Chemical Substances; ANTT-National Agency for Transport by Land of Brazil; ASTM-American Society for the Testing of Materials; bw-Bodyweight; CMR-Carcinogen, Mutagen or Reproductive Toxicant; CPR-Controlled Products Regulations; DIN-Standard of the German Institute for Standardization; DSL-Domestic Substances List (Canada); ECx - Concentration associated with x% response; 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; 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; IC_{50} -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; LC_{50} - Lethal Concentration to 50% of a test population; LD_{50}- Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s.- Not Otherwise Specified; Nch -Chilean Norm; NO(A)EC - No Observed(Adverse) Effect Concentration; NO(A)EL - No Observed(Adverse) Effect Level; NOELR-No Observable Effect Loading Rate; NOM -Official Mexican Norm; 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; REACH-Regulation (EC) No. 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation,

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