Safety data sheet as per Commission Regulation (EU) 2020/878
Product: Additiv A53

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name **Additiv A53**

Chemical Name Ethyl 3-[[bis(1-methylethoxy)phosphinothioyl]thio]propionate

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses Lubricant additive; Anti-wear additives to lubricants such as greases, gear oils, and motor oils; corrosion inhibitors and antioxidants

Uses identified against Food additive, medicinal products, cosmetic products

1.3 Details of the supplier of the safety data sheet:

Manufacturer: Prasol Chemicals Limited
Prasol House, Plot No.A-17/2/3,
T.T.C. Indl. Area, Khairne M.I.D.C.,
Navi Mumbai - 400 710.
Maharashtra, India.

Telephone: +91-22-69450600/ 61952500

Telefax: +91-22-61952577

e-mail address: sales@prasolchem.com; inquiry@prasolchem.com

1.4 Emergency telephone number

Telephone: +91-22- 7045783555/ 7045790555

Language: English

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Aquatic Chronic Category 2 H411 Toxic to aquatic life with long lasting effects

Information concerning particular hazards for human and environment: No further information

2.2 Label elements

Labeling according to Regulation (EC) No 1272/2008 (CLP)

Hazard pictograms

GHS09

Signal word none

Hazard statements

H411 Toxic to aquatic life with long lasting effects

Precautionary statements

General -

Prevention P273 Avoid release to the environment.

Response P391 Collect spillage

Storage -

Disposal P501 Dispose of contents and container in accordance with national regulations

2.3 Other hazards

Not a PBT, vPVB substance according to the criteria of REACH regulation

Not having endocrine disruptive properties as per criteria of Delegated Regulations (EC) 2017/2100 or (EC) 2018/605

SECTION 3: Composition/information on ingredients

3.1 Substances

Name: Ethyl 3-[[bis(1-methylethoxy)phosphinothioyl]thio]propionate

CAS Number: 71735-74-5

EC Number: 275-965-6

Molecular Formula: $C_{11}H_{23}O_4PS_2$

Molecular Weight: 314

Ingredient	Classification	Concentration (%)
Ethyl 3-[[bis(1-methylethoxy) phosphinothioyl]thio]propionate	Aq. Chr. 2, H411	100

There are no other ingredients present, which are classified as hazardous and hence require reporting in this section.

3.2 Mixtures not applicable

None of the ingredients present are classified as skin sensitisers 1A, respiratory sensitisers 1A, aspiration hazards and endocrine disruptors.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information	Remove from exposure, lie down. Never give anything by mouth to an unconscious person.
After inhalation	After inhalation of vapours during processing, remove the patient to fresh air at once and seek medical attention.
After skin contact	Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water.
After eye contact	Wash affected eyes for at least 15 minutes under running water with eyelids held open. Seek medical advice.
After swallowing	Do not induce vomiting. Rinse mouth and then drink plenty of water.
4.2 Most important symptoms and effects, both acute and delayed	Further important symptoms and effects are so far not known.
4.3 Indication of any immediate medical attention and special treatment needed	Treat symptomatically and supportively. No known specific antidote

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Water spray, CO_2, dry powder, foam
Unsuitable extinguishing media	water jet
5.2 Special hazards arising from the substance or mixture	In the event of fire, following can be released: carbon oxides (CO, CO_2), sulfur oxides (SO_x) and phosphorous oxides (PO_x) Closed container may rupture if strongly heated. Explosive mixtures may occur at temperatures at or above the flashpoint.
5.3 Advice for firefighters	Cool closed containers exposed to fire with water spray. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures	Use personal protective equipment. Avoid breathing vapours, mist or gas during processing. Ensure adequate ventilation
6.2 Environmental precautions	Do not allow to enter sewers, surface or ground water.
6.3 Methods and material for containment and cleaning up	Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. Suitable binder: sand
6.4 Reference to other sections	Section 8 for information on personal protection equipment. Section 13 for disposal information

SECTION 7: Handling and storage

7.1 Precautions for safe handling	If possible, use material transfer, metering and blending plants that are closed. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

7.2 Conditions for safe storage, including any incompatibilities

Advice on protection against fire and explosion	Follow normal measures for preventive fire protection.
Storage	Store in a cool place. Keep container tightly closed in a dry and well-ventilated place. Mechanical exhaust required.
Advice on common storage	Observe prohibition against storing together!
Storage stability	Maximum Storage Temperature: 30°C
7.3 Specific end use(s)	No further relevant information available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limit	DNEL	Long-term exposure- systemic effects	
	worker	Inhalation	14.7 mg/m3
	worker	dermal	2.08 mg/kg
	consumer	Inhalation	3.61 mg/m3
	consumer	dermal	1.04 mg/kg
	consumer	oral	1.04 mg/kg

8.2 Exposure controls

Appropriate engineering controls	If possible, use material transfer, metering and blending plants that are closed	
Personal protective equipment		
Eye/ face protection	closed goggles, face shield	
Skin protection	Type of material	Thickness
Hand protection	Butyl-rubber	0.7 mm
	Nitrile rubber	0.4 mm
Body protection	Boots, body suit	
Respiratory protection	Not required; except in case of aerosol formation. Avoid inhaling vapours.	
Thermal hazards	Combustible liquid, possibility of decomposition on excess heating	
Industrial hygiene	Avoid contact with skin and eyes. Remove immediately all contaminated clothing. Keep working clothes separately. Smoking, eating and drinking should be prohibited in the application area.	

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Clear slightly yellow liquid
Odour	Characteristic
Odour threshold	no data available
pH	5.5-7.5
Melting point	not determined (liquid; glass transition temperature -89°C)
Boiling point	not determined (decomposes at 180°C before boiling)
Flash point	113°C (closed cup)
Evaporation rate	not determined
Flammability (solid, gas)	not applicable (product is a liquid)
Flammability limits	Not detrmined, non-flammable
Vapour pressure	0.065Pa at 20°C
Vapour density	not determined
Relative density	1.05 - 1.15 at 20°C
Solubility in water	16.7 mg/L at 20°C, pH 6.5
Partition coefficient	4.0 log Kow (n-octanol/water) at 23°C
Ignition temperature	263°C
Decomposition temperature	no data available
Viscosity at 20°C	10.9cSt
Particle characteristics	Not applicable (substance is liquid)
9.2 Other information	no further information
Explosive properties	no explosive properties based on chemical structure
Oxidizing properties	no oxidizing properties based on chemical structure

SECTION 10: Stability and reactivity

10.1	**Reactivity**	No hazardous reaction when handled and stored according to provisions.
10.2	**Chemical stability**	The product is stable under storage at normal ambient temperatures.
10.3	**Possibility of hazardous reactions**	No hazardous reactions known.
10.4	**Conditions to avoid**	Extremes of temperature and direct sunlight, avoid electrostatic discharge
10.5	**Incompatible materials**	strong acids, strong bases, strong oxidizing agents.
10.6	**Hazardous decomposition products**	carbon oxides, sulfur oxides, phosphorus oxides, nitrogen oxides, toxic gases/vapours

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50	oral	rat	>5ml/kg bw	Not classified
LD50	Dermal	rabbit	>2000 g/kg bw	not classified

Skin irritation Not irritating

Serious eye irritation Not irritating

Respiratory or skin sensitization Not sensitizing

Germ cell mutagenicity non mutagenic

Carcinogenicity no data available

Reproductive toxicity No reproductive or developmental toxicity found
NOAEL: Maternal toxicity 150 mg/kg bw/d;
NOAEL: prenatal developmental toxicity 400 mg/kg bw/d

STOT-single exposure No further information

STOT-repeated exposure not classified as specific target organ toxicant
NOAEL 125 mg/kg bw/day; rat (oral)

11.2 Information on other hazards

Endocrine disrupting properties No endocrine disrupting properties

Other information No further information

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity

Toxicity to fish	LC50	96h	1.73mg/L	*Danio rerio*
Toxicity to aquatic invertebrates	EC50	48h	4.01mg/L	*Daphnia magna*
Toxicity to aquatic algae and cyanobacteria	EC50	72h	8.28mg/L	*Pseudokirchneriella subcapitata*
Toxicity to microorganisms	IC50	3h	>100mg/L	sewage, domestic

12.2 Persistence and degradability

Biodegradation not readily biodegradable (20% in 28days) **Aq. Chr. 2, H411**

12.3 Bioaccumulative potential very low potential for bioaccumulation

12.4 Mobility in soil Moderate to low; Adsorption to the solid soil phase is expected.

12.5 Results of PBT and vPvB assessment Not a PBT, vPvB substance according to the REACH regulation

12.6 Endocrine disrupting properties No endocrine disrupting properties

12.7 Other adverse effects Harmful to aquatic organisms
The material is harmful to the environment

SECTION 13: Disposal considerations

13.1 Waste treatment methods Observe all federal, state, and local environmental regulations.
Contact a licensed professional waste disposal service to dispose of this material.
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Do not dispose in sewage.

SECTION 14: Transport information

	ADR/RID	IMDG	ICAO/IATA
14.1 UN Number	3082	3082	3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Ethyl 3-[[bis(1-methylethoxy)phosphinothioyl]thio]propionate)		
14.3 Transport hazard class	9	9	9
14.4 Packaging group	III	III	III
14.5 Environmental hazards	environmentally hazardous, marine pollutant		
14.6 Special precautions for the user	Combustible liquid; Flash point 113°C (closed cup)		
	Environmentally hazardous substance. Marine pollutants.		
EmS Number	F-A (S-F)		
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	See regulatory information for transport approval		

SECTION 15: Regulatory information

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

Major accident hazard	**Seveso III**	no

International Chemical Inventory Status

USA (TSCA)	Listed (Tracking No. 548834)
Canada (DSL)	listed
Australia (AICS)	listed
Japan (MITI)	Listed (MITI No. 2-3153) Newly Announced Chemical Substances
Korea (KECL)	Listed (KE-13553)
Philippines (PICCS)	listed
China (IECSC)	listed
New Zealand (NZIoC)	listed
Taiwan (TCSI)	listed

15.2 Chemical safety assessment A Chemical Safety Assessment will be carried out at the time of REACH registration

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Further information:

Sections in which changes have been made since the last version are marked with a diamond ◆ in the left hand margin.

Abbreviations and acronyms in English language:

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
CAS	Chemical Abstracts Service (division of the American Chemical Society)
CLP	Classification for Labeling and Packaging
DNEL	Derived No Effect Level
DSL	Domestic Substances List
EC	European Commission
EC50	Half maximal effective concentration
EINECS	European Inventory of Existing Commercial Chemical Substances
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
IATA	International Air Transport Association
IBC	International Bulk Chemical
IC50	Half maximal inhibitory concentration
ICAO	International Civil Aviation Organization
IMDG	International Maritime Code for Dangerous Goods
KECL	Korea Existing Chemicals List
KOC	Soil adsorption coefficient
KOW	Partition Coefficient octanol-water
LC50	Lethal concentration, 50 percent
LD50	Lethal dose, 50 percent
MARPOL	International Convention for the Prevention of Pollution from Ships
MITI	Ministry of International Trade and Industry
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
PBT	Persistent, bioaccumulative and toxic substances
PICCS	Philippine Inventory of Chemicals and Chemical Substances
RID	Regulations Concerning the International Transport of Dangerous Goods by Rail
STOT	Specific target organ toxicity
TSCA	Toxic Substances Control Act
UN	United Nations
vPVB	(very) Persistent, (very) Bioaccumulative

Sources

Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
ECHA https://echa.europa.eu/registration-dossier/-/registered-dossier/13230

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