Safety data sheet as per Commission Regulation (EU) 2015/830
Product: Additiv 530

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

1.1 Product identifier

Trade name **Additiv 530**

Chemical Name Zinc dialkyl dithiophosphate (ZDDP)

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 (Formerly Prasol Chemicals Private 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: +91-22-27782555/ 61952500

Telefax: +91-22-61952577

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

1.4 Emergency telephone number

Telephone: +91-22- 27782555/ 61952500

Language: English

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Skin Irritation	Category 2	H315	Causes skin irritation
Eye Damage	Category 1	H318	Causes serious eye damage
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

GHS05

GHS09

Signal word Danger

Hazard statements

H315	Causes skin irritation
H318	Causes serious eye damage
H411	Toxic to aquatic life with long lasting effects

Precautionary statements

General	P103	Read label before use.
Prevention	P264	Wash hands thoroughly after handling.
	P273	Avoid release to the environment.
	P280	Use protective gloves and eye protection.
Response	P302+P352	IF ON SKIN: Wash with plenty of water.
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
	P310	Immediately call a doctor.
	P321	Specific treatment: wash with plenty of water and mild soap.
	P332 + P313	If skin irritation occurs: Get medical attention.
	P362+P364	Take off contaminated clothing and wash it before reuse.
	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

SECTION 3: Composition/information on ingredients

3.1 Substances

Name	Zinc di(alkyl)dithiphosphate (ZDDP)
IUPAC Name	Dialkyl, O,O-diester with phosphorodithioic acid, zinc salt
CAS No.	68649-42-3
EC No.	272-028-3
Molecular Formula	not applicable (UVCB)
Molecular Weight	not applicable (UVCB)

Ingredient	Classification	Concentration (%)
Zinc di(alkyl)dithiphosphate	Skin Irrit. 2, Eye Dam. 1, Aquatic Chronic 2 H315, H318, H411	80-100

Any concentration shown as a range is to protect confidentiality or is due to batch variation.
There are no other ingredients present, which are classified as hazardous and hence require reporting in this section.

3.2 Mixtures not applicable

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Symptoms of poisoning may only appear several hours later. When symptoms persist or in all cases of doubt seek medical advice. 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.

After skin contact Take off all contaminated clothing immediately. If symptoms persist, call a physician. Wash off immediately with soap and plenty of water.

After eye contact Rinse immediately with plenty of water and seek medical advice.

After swallowing Do not induce vomiting and seek medical advice immediately.

4.2 Most important symptoms and effects, both acute and delayed Headache, dizziness, nausea, eye irritation

4.3 Indication of any immediate medical attention and special treatment needed Treat symptomatically and supportively

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media CO_2, dry powder, foam

Unsuitable extinguishing media water jet

5.2 Special hazards arising from the substance or mixture May form toxic sulfur dioxide and carbon oxides if burning.
Closed container may rupture if strongly heated.
Combustible liquid.
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	German storage class: 10 - Combustible liquids 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: 45°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	Contains no substances with occupational exposure limit values.

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			
Hand protection	Type of material	Thickness	Breakthrough time
	Butyl-rubber	0.5 mm	> 480 min
	Polychloroprene (PCP)	0.5 mm	110 min
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	Colorless to pale brown liquid
Odour	Mild petroleum odor
Odour threshold	no data available
pH	5.5-7.5
Melting point	not determined (liquid; pour point -21oC)
Boiling point	not determined (decomposes before boiling)
Flash point	>110°C (open cup)
Evaporation rate	not determined
Flammability (solid, gas)	not applicable (product is a liquid)
Flammability limits	no data available
Vapour pressure	0.0025Pa at 25°C
Vapour density	not determined
Relative density	1.10 -1.20 at 15.6°C
Solubility in water	1658mg/L at 22°C, pH 5
Partition coefficient	3.5 log Kow (n-octanol/water) at 20°C
Ignition temperature	262°C
Decomposition temperature	no data available
Viscosity at 100 °C	10-16 cSt
Explosive properties	no explosive properties however containers may explode in fire
Oxidizing properties	no oxidizing properties
9.2 Other information	no further information

SECTION 10: Stability and reactivity

10.1 Reactivity	No hazardous reaction when handled and stored according to provisions.
10.2 Chemical stability	Under storage at normal ambient temperature (-10°C to +45°C), product is stable.

10.3	**Possibility of hazardous reactions**	Spontaneous decomposition may start at 150°C.; After prolonged heating, slow decomposition may start at above 80°C.
10.4	**Conditions to avoid**	Extremes of temperature and direct sunlight.
10.5	**Incompatible materials**	Keep away from reducing agents, oxidising agents, acids and bases.
10.6	**Hazardous decomposition products**	formation of alkylmercaptans, dialkylsulphides, traces of hydrogen sulphide possible

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50	oral	rat	3.08 g/kg bw	Category 5
LC50	inhalation	rat	>2.3 mg/l	not classified
LD50	Dermal	rabbit	20 g/kg bw	not classified

Skin irritation	Irritating 24 h (rabbit)) **Category 2; H315**
Serious eye irritation	Irritating 24 h (rabbit) **Category 1; H318** (irreversible effects on the eye)
Respiratory or skin sensitization	Not a skin sensitizer
Germ cell mutagenicity	non mutagenic (Ames test)
Carcinogenicity	no data available
Reproductive toxicity	NOAEL 30 mg/kg/day (rat)
STOT-single exposure	irritating to eye and skin;
STOT-repeated exposure	not classified as specific target organ toxicant NOAEL 125 mg/kg bw/day; rat (oral)

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity

Toxicity to fish	LC50	96h	4.5mg/L	*Oncorhynchus mykiss*
Toxicity to aquatic invertebrates	LC50	48h	5.4 mg/L	*Daphnia magna*
Toxicity to aquatic algae and cyanobacteria	EC50	72h	2.0 mg/L	*Selenastrum capricornutum*
Toxicity to microorganisms	EC50	3h	>10,000mg	sewage, domestic

12.2	**Persistence and degradability** **Biodegradation**	not readily biodegradable (1.5% in 28days)
12.3	**Bioaccumulative potential**	Bioconcentration factor <1000L/Kg very low potential for bioaccumulation
12.4	**Mobility in soil**	log Koc = 3.5
12.5	**Results of PBT and vPvB assessment**	Not a PBT, vPvB substance according to the REACH regulation
12.6	**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. (MIXTURE, CONTAINS ZINC DIALKYL DITHIOPHOSPHATE)		
14.3	**Transport hazard class**	9	9	
14.4	**Packaging group**	III	III	
14.5	**Environmental hazards**	environmentally hazardous, marine pollutant		
14.6	**Special precautions for the user**	Combustible liquid; Flash point 96°C (closed cup) Environmentally hazardous substance. Marine pollutants. Irritating to the eyes. Keep dry. Keep separated from foodstuffs		
	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
Canada (DSL)	listed
Australia (AICS)	listed
Japan (MITI)	listed
Korea (KECL)	listed
Philippines (PICCS)	listed
China	listed
New Zealand	listed
Taiwan	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:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
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
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
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
NOAEC	No Observed Adverse Effect Concentration
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/substance-information/-/substanceinfo/100.065.461

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