



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

1.1 Product identifier

Trade name Additiv 4030
Chemical Name Zinc di(alkyl)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 Ltd. (Formerly known as 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 +91-22-69450600/ 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)

Skin Irritation	Category 2	H315	Causes skin irritation
Eye Irritation	Category 2	H319	Causes serious eye irritation
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



GHS07



GHS09

Signal word Danger

Hazard statements

H315	Causes skin irritation
H319	Causes serious eye irritation
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
	P317	Get medical help.
	P321	Specific treatment: wash with plenty of water and mild soap.
	P332 + P313	If skin irritation occurs: Get medical attention.
	P337 + P317	If eye irritation persists, get medical help.
	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)dithiophosphate (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)dithiophosphate	Skin Irrit. 2, Eye Irrit. 2, Aquatic Chronic 2 H315, H319, H411	80-100

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present, within the current knowledge of the supplier and in the concentrations applicable, which are classified as hazardous to health 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	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	May cause eye damage, respiratory irritation, burns to mouth, throat and stomach if ingested
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.
Decomposition products may include the following materials: carbon oxides (CO, CO₂); metal oxide/oxides; Hydrogen sulfide; sulfur oxides (SO₂, SO₃)
Cool closed containers exposed to fire with water spray.
Wear self-contained breathing apparatus.

5.3 Advice for firefighters

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.

6.4 Reference to other sections

Suitable binder: sand, silica gel, acid binder, universal binder, sawdust
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. Empty containers retain product residue and can be hazardous. Do not reuse container. Maximum Handling Temperature 70 °C
- 7.2 Conditions for safe storage, including any incompatibilities** Follow normal measures for preventive fire protection.
- Advice on protection against fire and explosion** 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.
- Storage** Metal, mild steel
- Packing material** Reducing agents; Oxidizing agents; Acids and bases
- Incompatibility** Observe prohibition against storing together!
- Advice on common storage** Maximum Storage Temperature: 45°C
- Storage stability** No further relevant information available
- 7.3 Specific end use(s)**

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** If possible, use material transfer, metering and blending plants that are closed
- Appropriate engineering controls**
- Personal protective equipment**
- Eye/ face protection** closed goggles, face shield
- Skin protection** Type of material Thickness Breakthrough time
- Hand protection** 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** characteristic of sulfur-containing compounds
- Odour threshold** no data available
- pH** 5.5-7.5
- Melting point** not determined (liquid; pour point -15°C)
- Boiling point** not determined (decomposes before boiling)
- Flash point** >190°C (closed cup)
- Evaporation rate** not determined
- Flammability (solid, gas)** not applicable (product is a liquid)
- Flammability limits** no data available
- Vapour pressure** 1.3×10^{-2} Pa at 25°C
- Vapour density** not determined
- Relative density** 1.10 -1.20 at 15.6°C
- Solubility in water** 1.62×10^{-05} mg /L at 20°C, pH 5
- Partition coefficient** 8.87 log Kow (n-octanol/water) at 20°C (calculated)
- Ignition temperature** 262°C
- Decomposition temperature** 200°C



Viscosity at 100°C	10-16 cSt
Particle characteristics	Not applicable (substance is a 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	Under storage at normal ambient temperatures (-40°C to +45°C), the product is stable. Decomposition Temperature 200°C
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	Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Hydrogen sulfide and alkyl mercaptans and sulfides may also be released. Under combustion conditions, oxides of the following elements will be formed: phosphorus, sulfur, zinc. Odorous and toxic fumes may form from decomposition of this product if heat sources in excess 121°C are used.

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; reversible effects (rabbit) Category 2 H315
Serious eye irritation	Causes serious eye irritation; reversible effects (rabbit) Category 2 H319
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)
Aspiration hazard	no data available
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 4.5mg/L <i>Oncorhynchus mykiss</i>
Toxicity to aquatic invertebrates	LC50 48h 5.4 mg/L <i>Daphnia magna</i>
Toxicity to aquatic algae and cyanobacteria	EC50 72h 2.0 mg/L <i>Selenastrum capricornutum</i>
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 log Koc = 8.87
12.4 Mobility in soil	
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. (MIXTURE, CONTAINS ZINC DIALKYL DITHIOPHOSPHATE)		
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 190°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 |
| Korea (KECL) | Listed |
| Philippines (PICCS) | listed |
| China | listed |
| New Zealand | listed |
| Taiwan | listed |
- 15.2 Chemical safety assessment** A Chemical Safety Assessment has been carried out.

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
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

Safety data sheet as per Commission Regulation (EU) 2020/878

Product: Additiv 4030



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)

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--End of safety data sheet--