

SAFETY DATA SHEET

Product No. 16061, 16061-20 Molydag Lubricant 210

Issue Date (11-13-14)

Review Date (06-05-23) Rev. 03

Section 1: Product and Company Identification

Product Name: Molydag Lubricant 210

Synonym: Bonderite L-GP M 210 Dryfilm Coating, Acheson as Molydag 210

Company Name

Ted Pella, Inc., P.O. Box 492477, Redding, CA 96049-2477

Ted Pella, Inc., P.O. Box 492477, Redding, CA 96049-2477

Inside USA and Canada 1-800-237-3526 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)

Outside USA and Canada 1-530-243-2200 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)

CHEMTREC USA and Canada Emergency Contact Number 1-800-424-9300 24 hours a day

CHEMTREC Outside USA and Canada Emergency Contact Number +1-703-741-5970 24 hours a day

Section 2: Hazard Identification

Classification of the substance or mixture

Signal Word: DANGER

Hazard-determining component of labeling: 2-Propanol

GHS Categories:

GHS02 – Flammable	Flammable Liquid:	Category 2
GHS07 – Irritant	Eye Irritation:	Category 2A
GHS08 – Health Hazard	Reproductive Toxicity:	Category 2
	Specific Target Organ Toxicity – Single Exposure:	Category 3

Label elements

GHS Pictograms:



GHS02



GHS07



GHS08

Hazard Statements:

H225	Highly flammable liquid and vapor
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness
H361	Suspected of damaging fertility or the unborn child

Precautionary Statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/hot surfaces/sparks/open flames/other ignition sources. No smoking.
P233	Keep container tightly closed.
P241	Use explosion-proof equipment.

P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing vapors/mist/spray.
P264	Wash affected area thoroughly after handling.
P271	Use only outdoors or in well-ventilated area.
P273	Avoid release to environment.
P280	Wear protective gloves, clothing, eye and face protection.
P303+P361	If on skin (or hair): Take off immediately all contaminated clothing.
P304+P340+P314	IF INHALED: Remove person to fresh air. Keep comfortable for breathing. Call a Poison Center or physician if you feel unwell.
P305+P351+P338	IF IN EYES: Rinse cautiously with water several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P308+P313	If exposed or concerned: Get medical attention.
P337+P315	If eye irritation persists: Get medical attention.
P370+P378	In case of fire: Use foam, dry chemical or carbon dioxide to extinguish.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool/.
P405	Store locked up.
P501	Dispose of contents/container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Section 3: Composition / Information on Ingredients

<u>Hazardous Component(s)</u>	<u>CAS No.</u>	<u>EC No.</u>	<u>w/w%*</u>
2-Propanol	67-63-0	200-661-7	70-80%
Molybdenum disulfide	1317-33-5	215-263-9	10-30%
Ethylcellulose	9004-57-3	618-384-9	5-10%
1,2,4-Trimethylbenzene	95-63-6	202-436-9	1-5%
Solvent naphtha (petroleum) light aromatic, <0.1% Benzene	64742-95-6	918-668-5	1-5%
Tris(methylphenyl) phosphate	1330-78-5	215-548-8	0.1-1%

*Exact percentages may vary or are trade secret.

Concentration range is provided to assist users in providing appropriate protections.

Section 4: First Aid Measures

Inhalation:	If inhaled, immediately remove the affected person to fresh air. If symptoms develop and persist, get medical attention.
Skin Contact:	Immediately wash skin thoroughly with soap and water. If symptoms develop and persist, get medical attention.
Eye(s) Contact:	Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.
Ingestion:	Get immediate medical attention. Do NOT induce vomiting. Give one or two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.
Symptoms:	See Section 11.
Note to physician:	Treat symptomatically and supportively.

Section 5: Fire Fighting Measures

Suitable extinguishing media:	Water spray (fog), foam, dry chemical or carbon dioxide.
Special firefighting procedures:	Wear full protective clothing. Wear self-contained breathing apparatus.
Unusual fire or explosion hazards:	<u>DANGEROUS when exposed to heat or flame.</u> <ul style="list-style-type: none">• This material can be ignited by flame or spark under all normal atmospheric conditions.• Vapors are heavier than air and may travel to ignition sources and flash back.• Formation of toxic gases is possible during heating or in fires.
Hazardous combustion products:	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Section 6: Accidental Release Measures

Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Personal Protection:

- Use personal protection recommended in Section 8

Environmental Precautions:

- Prevent further leakage or spillage if safe to do so.
- Wear appropriate protective equipment and clothing during clean-up.
- Remove all sources of ignition
- Do not allow product to enter sewers or waterways.

Cleaning Methods:

- Absorb spill with inert material.
- Shovel material into appropriate container for disposal.

Disposal Methods:

- Dispose contaminated material as waste according to Section 13
- Dispose of contents/container according to Federal, State/Provincial and local governmental regulations.

Section 7: Handling and Storage

Handling:

Avoid contact with eyes, skin and clothing.
Wash thoroughly after handling.
Avoid breathing vapors or mists of this product.
Use only with adequate ventilation.
Do not take internally.
For industrial use only

Storage:

Store between 5.0°C (41°F) and 30.0°C (86°F).
Keep container tightly closed.
Store in a cool, well-ventilated place away from incompatible materials.
Outside temperature limits, the properties of the product will change.
Store in original container until ready to use.
Keep out of reach of children and away from food and drink.
Protect from direct sunlight.
Ground and bond metal containers for liquid transfer to avoid static sparks.

Section 8: Exposure Controls / Personal Protection

<u>Hazardous Components</u>	<u>ACGIH</u>	<u>OSHA PEL</u>	<u>AIHA WEEL</u>	<u>OTHER</u>
2-Propanol	200 ppm TWA 400 ppm STEL	400 ppm (980 mg/m ³) PEL	None	None
Molybdenum disulfide	10 mg/m ³ TWA (as Mo) Inhalable fraction. 3 mg/m ³ TWA (as Mo) Respirable fraction.	15 mg/m ³ PEL (as Mo) Total dust.	None	None
Ethylcellulose	None	None	None	None
1,2,4-Trimethylbenzene	25 ppm TWA	None	None	None
Solvent naphtha (petroleum), light aromatic, <0.1% Benzene	None	None	None	50 ppm
Tris(methylphenyl) phosphate	None	None	None	None

Engineering controls: Provide local and general exhaust ventilation to effectively remove and prevent buildup of any vapors or mists generated from handling of this product.

Respirator protection: If ventilation is not sufficient to effectively prevent buildup of aerosols, mist or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

Eye/face protection: Wear safety glasses; chemical goggles (if splashing is possible).

Skin protection: Wear impervious gloves for prolonged contact. Gloves should be tested to determine suitability for prolonged contact. Use of impervious apron and boots are recommended.

Section 9 Physical and Chemical Properties

Physical state:	Liquid
Color:	Gray green
Odor:	Alcoholic
Odor threshold:	7.5 ppm
pH:	Not applicable
Vapor pressure:	33mm Hg
Boiling point range:	82°C (179.6°F)
Melting point range:	-88.8°C (-127.8°F)
Specific gravity:	0.91
Vapor density:	2.07 (Air =1)
Flash point:	11.6°C (52.88°F) Tagliabue closed cup
Flammable/Explosion limits – lower	2%
Flammable/Explosion limits – upper	12%
Auto-ignition temperature:	Not applicable
Flammability	Not applicable
Evaporation rate:	2.9 (Butyl acetate =1)
Solubility in water:	Disperses in water as a suspension
Partition coefficient (n-octanol/water)	-0.14
VOC content:	710 g/L
Viscosity:	150-600 cp
Decomposition temperature:	Not applicable

Section 10: Stability and Reactivity

Stability:	Stable at normal temperatures and pressures.
Hazardous reactions:	None under normal processing
Hazardous Decomposition Products:	Thermal decomposition can lead to release of irritating gases and vapors. Upon decomposition, this product emits carbon monoxide and/or low molecular weight hydrocarbons
Incompatible materials:	Reacts with air to form peroxides.
Reactivity:	Not available.
Conditions to Avoid:	Avoid strong oxidizing agents. Avoid excessive heat and ignition sources.

Section 11: Toxicological Information

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects/Symptoms

- Inhalation:** This product is irritating to the respiratory system.
Excessive inhalation of this material causes headache, dizziness, nausea and incoordination.
- Skin contact:** Prolonged or repeated skin contact may result in redness, burning sensation or dermatitis.
A component in this product may be absorbed through the skin in harmful amounts.
- Eye contact:** This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.
- Ingestion:** This product is harmful or fatal if swallowed.
Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea.
May cause headache, dizziness, nausea, vomiting and incoordination.
Small amounts of this product, if aspirated into the lungs, may cause mild to severe pulmonary injury.

Hazardous Components	LD50's and LC50's	Immediate and Delayed Health Effects
2-Propanol	Oral LD50 (Rat) = 5,045 mg/kg Oral LD50 (Mouse) = 3,600 mg/kg Oral LD50 (Rabbit) = 6,410 mg/kg Oral LD50 (Rat) = 4.7 g/kg Oral LD50 (Mouse) = 4.5 g/kg Oral LD50 (Rabbit) = 8.0 g/kg Oral LD50 (Rabbit) = 5.03 g/kg Dermal LD50 (Rabbit) = 12,000 mg/kg	Allergen, Central nervous system Irritant
Molybdenum disulfide	None	No target organs
Ethylcellulose	None	Irritant
1,2,4-Trimethylbenzene	Oral LD50 (Rat) = 6.0 g/kg Dermal LD50 (Rabbit) = >3,160 mg/kg	Central nervous system Irritant Respiratory
Solvent naphtha (petroleum), light aromatic, <0.1% Benzene	None	Irritant
Tris(methylphenyl) phosphate	None	Blood, Gastrointestinal Irritant, Kidney, Liver Nervous system, Reproductive

<u>Hazardous Component(s)</u>	<u>NTP Carcinogen</u>	<u>IARC Carcinogen</u>	<u>OSHA Carcinogen</u>
2-Propanol	No	No	No
Molybdenum disulfide	No	No	No
Ethylcellulose	No	No	No
1,2,4-Trimethylbenzene	No	No	No
Solvent naphtha (petroleum) light aromatic, <0.1% Benzene	No	No	No
Tris(methylphenyl) phosphate	No	No	No

Section 12: Ecological Information

No information available.

Section 13 Disposal Considerations

Information provided is for unused product only.

Disposal Methods:

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: If discarded, this product is considered a RCRA ignitable waste, D001.

Section 14: Transportation Information

International Regulations

ICAO/IATA

UN identification number	UN 1219
Proper shipping name	Isopropyl alcohol
Class	3
Packing group	II
Labels	Flammable Liquids
Packing instruction (cargo aircraft)	364
Packing instruction (passenger aircraft)	353

IMDG-Code

UN identification number	UN 1219
Proper shipping name	Isopropyl alcohol solution
Class	3
Packing group	II

Domestic Regulations

U.S. DOT (49 CFR)

UN identification number	UN 1219
Proper shipping name	Isopropyl alcohol solution
Class	3
Packing group	II

Special precautions for user

The transport classification(s) provided herein are for information purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet (SDS). Transportation classifications may vary by mode of transportation, package size, and variations in regional or country regulations.

Section 15: Regulatory Information

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

TSCA 12 (b) Inventory Status: None above reporting de minimis

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

SARA 302 – Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards: Immediate Health
Fire

SARA 313: The following components are subject to reporting levels established by SAS Title III, Section 313:

1,3,4-Trimethylbenzene	95-63-6	1-5%
------------------------	---------	------

California Prop. 65

WARNING: This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

For more information go to www.P65Warnings.ca.gov

Canada Regulatory Information

CEPA DSL/NDL Status: All components are listed or are exempt from listing on the Canadian Domestic Substances List.

Section 16: Other Information

This Safety Data Sheet (SDS) is intended to comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Full text of other abbreviations

ACGIH:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI:	ACGIH - Biological Exposure Indices (BEI)
NIOSH REL:	USA. NIOSH Recommended Exposure Limits
OSHA Z-1:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-2:	USA. Occupational Exposure Limits (OSHA) - Table Z-2
US WEEL:	USA. Workplace Environmental Exposure Levels (WEEL)
ACGIH / TWA:	8-hour, time-weighted average
ACGIH / STEL:	Short-term exposure limit
NIOSH REL/TWA:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL/ST:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA Z-1 / TWA:	8-hour time weighted average
OSHA Z-2/TWA:	8-hour time weighted average
OSHA Z-2/CEIL:	Acceptable ceiling concentration
OSHA Z-2/Peak:	Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift
US WEEL/TWA:	8-hr TWA

AICS - Australian Inventory of Chemical Substances;

AIIC - Australian Inventory of Industrial Chemicals;

ASTM - American Society for the Testing of Materials;

bw - Body weight;

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act;

CMR - Carcinogen, Mutagen or Reproductive Toxicant;

DIN - Standard of the German Institute for Standardization;

DOT - Department of Transportation;
DSL - Domestic Substances List (Canada);
ECx - Concentration associated with x% response;
EHS - Extremely Hazardous Substance;
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;
HMIS - Hazardous Materials Identification System;
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;
IC50 - 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 Organization for Standardization;
KECI - Korea Existing Chemicals Inventory;
LC50 - Lethal Concentration to 50 % of a test population;
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose);
MARPOL - International Convention for the Prevention of Pollution from Ships;
MSHA - Mine Safety and Health Administration;
n.o.s. - Not Otherwise Specified;
NFPA - National Fire Protection Association;
NO(A)EC - No Observed (Adverse) Effect Concentration;
NO(A)EL - No Observed (Adverse) Effect Level;
NOELR - No Observable Effect Loading Rate;
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;
RCRA - Resource Conservation and Recovery Act;
REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals;
RQ - Reportable Quantity;
SADT - Self-Accelerating Decomposition Temperature;
SARA - Superfund Amendments and Reauthorization Act;
SDS - Safety Data Sheet;
TCSI - Taiwan Chemical Substance Inventory;
TSCA - Toxic Substances Control Act (United States);
UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods;
vPvB - Very Persistent and Very Bioaccumulative

Disclaimer

Ted Pella, Inc. makes no warranty of any kind regarding the information furnished herein. Users should independently determine the suitability and completeness of information from all sources. While this data is presented in good faith and believed to be accurate, it should be considered only as a supplement to other information gathered by the user. It is the User's responsibility to assure the proper use and disposal of these materials as well as the safety and health of all personnel who may work with or otherwise come in contact with these materials.

MSDS Form 0013F1 V3