

Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration
(Non-Mandatory Form)

Form Approved
OMB No. 1218-0072



ENTITY (As Used on Label and List)
Galv Off #431-2241

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I 7-4357

Manufacturer's Name Chase Products Company		Emergency Telephone Number (312) 865-1000	
Address (Number, Street, City, State, and ZIP Code) P.O. Box 70 Maywood, IL 60153		Telephone Number for Information (312) 865-1000	NEPA
Date Prepared 04/25/88		HAZARD RATING 4-EXTREME 3-HIGH 2-MODERATE 1-SLIGHT 0-INSIGNIFICANT	
Signature of Preparer (optional)			

Section II -- Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity)	CAS Reg. No.	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Paraffin Oil	8012-95-1	NA	NA	NA	
Mineral Spirits	64742-47-8	500ppm	100ppm	NA	
*1,1,1-Trichloroethane	71-55-6	350ppm	350ppm	NA	25-30%
Propane /n-Butane Propellant	74-98-6/	1000ppm	NA	NA	
Blend	106-97-8	NA	800ppm	NA	
*This chemical is listed under SARA SECTION 313:					

Section III -- Physical/Chemical Characteristics

Boiling Point Mineral Spirits	315°F	Specific Gravity (H ₂ O = 1) Concentrate	0.933
Vapor Pressure (mm Hg.)	NA	Melting Point	NA
Vapor Density (AIR = 1)	NA	Evaporation Rate (Butyl Acetate = 1)	Faster than Butyl Acetate
Solubility in Water Insoluble			

Appearance and Odor
Greenish-blue liquid with petroleum hydrocarbon solvent odor and Chlorinated solvent odor.

Section IV -- Fire and Explosion Hazard Data

Flame Projection: Over 18in. No flashback	Flammable, Limes	NA	LEL	UEL
Extinguishing Media Carbon dioxide, foam, dry chemical.				
Special Fire Fighting Procedures Water spray may be used to cool cans in the vicinity of fire or excessive heat.				

Fire and Explosion Hazards
Temperatures above 120°F may cause cans to burst.

Section V — Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	Temperatures above 120°F.

Compatibility (Materials to Avoid)

Strong oxidizing agents and open flame.

Hazardous Decomposition or Byproducts

Thermal decomposition may yield carbon monoxide, carbon dioxide, hydrogen chloride and small amounts of phosgene.

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	Temperatures above 120°F.

Section VI — Health Hazard Data

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	yes	yes	no

Health Hazards (Acute and Chronic)

Acute: Over inhalation of vapor or spray mist may cause headache, nausea or vomiting.

May be irritating to skin and eyes on prolonged and repeated contact.

Chronic: Not known.

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	no	no	no

Signs and Symptoms of Exposure

Over inhalation of vapor or spray mist may cause headache, nausea or vomiting.

May be irritating to the skin and eyes on prolonged and repeated contact.

Medical Conditions

Generally Aggravated by Exposure

Not known.

Emergency and First Aid Procedures

If overcome with vapor, remove victim to fresh air. Remove from skin with soap and water.

Flush eyes with plenty of water. Consult a physician if injury develops.

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled

Soak up spills with chemically inert, absorbent material. Provide adequate ventilation to area being treated.

Waste Disposal Method

Dispose cans in non-incinerated trash only.

Precautions to Be Taken in Handling and Storing

Handle as flammable material. Keep away from open flame spark sources or where temperature exceeds 120°F. Keep out of reach of children.

Other Precautions

Do not deliberately inhale vapor or spray mist. Avoid prolonged contact with skin and eyes.

AEROSOL FIRE PROTECTION LEVEL III (NFPA 30B)**Section VIII — Control Measures**

Respiratory Protection (Specify Type)

None required if used with adequate ventilation.

Ventilation	Local Exhaust	Optional	Special	None
	Mechanical (General)	Optional	Other	None

Protective Gloves

Neoprene or vinyl

Eye Protection

Conventional eye glasses to guard against unexpected splashing.

Protective Clothing or Equipment

Imervios clothing if desired.

Work/Hygiene Practices

NA.

Prepared by: Laura E. Radevski

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• UEGPO 1986-491-529/45775

Date Prepared: April 31, 1989

General Offices/3M
3M Center
St. Paul, Minnesota 55144-1000
(612) 733-1110

04-12

MATERIAL SAFETY
DATA SHEET

DIVISION: ADHESIVES, COATINGS AND SEALERS
TRADE NAME: 3M Brand 5-Way Penetrant
3M I.D. NUMBER: 62-4600-4935-9
ISSUED: JULY 31, 1986
SUPERSEDES: JANUARY 20, 1986
DOCUMENT: 10-3313-3

1. INGREDIENTS	C.A.S. N ^o .	PERCENT	EXPOSURE LIMITS	
propane propellant	74-98-6		1000 ppm	2
isobutane propellant	75-28-5		N/D	5
TOTAL OF THE ABOVE	N/A	28.0	N/D	5
mineral spirits	8032-32-4	40.0	125 ppm	1
kerosene	8008-20-6	16.0	500 ppm	4
2-butoxyethanol	111-76-2	2.0	25 ppm skin	1
rust preventative concentrate	N/A	14.0	N/D	5

SOURCE OF EXPOSURE LIMIT DATA:

1. ACGIH Threshold Limit Values
2. Federal OSHA Permissible Exposure Limit
3. 3M Exposure Guidelines
4. Chemical Manufacturer Recommended Guidelines
5. None Established

ABBREVIATIONS:

- N/D - Not Determined
N/A - Not Applicable

2. PHYSICAL DATA

BOILING POINT:	Compressed gas
VAPOR PRESSURE:	Compressed gas
VAPOR DENSITY (Air=1):	>3
EVAPORATION RATE (Ether=1):	>1
APPEARANCE AND ODOR:	Clear straw liquid
SOLUBILITY IN WATER:	Nil
SP. GRAVITY (Water=1):	0.72
PERCENT VOLATILE:	86
VISCOSITY:	N/A
pH:	N/A

3M 043.1

MATERIAL SAFETY
DATA SHEET

MSDS: 3M Brand 5-Way Penetrant
JULY 31, 1986

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3. FIRE AND EXPLOSION HAZARD DATA

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FLASH POINT (Closed Cup): -50F
FLAMMABLE LIMITS - LEL: N/A UEL: Flamm. Gas

EXTINGUISHING MEDIA:

CO2, foam, dry chemical

SPECIAL FIRE FIGHTING PROCEDURES:

Fire fighters should be equipped with self-contained breathing apparatus when fighting fires involving this material.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Extremely Flammable. Treat as flammable pressurized container. Overheated, closed container adjacent to fire could explode due to pressure buildup.

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4. REACTIVITY DATA

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STABILITY: STABLE

INCOMPATIBILITY - MATERIALS TO AVOID:

N/A

CONDITIONS TO AVOID: Do not store at temperatures above 120F.

HAZARDOUS POLYMERIZATION: MAY NOT OCCUR

HAZARDOUS DECOMPOSITION PRODUCTS:

CO, CO2 and smoke particles when subjected to excessive heat or flame.

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5. ENVIRONMENTAL INFORMATION

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SPILL RESPONSE:

Observe precautions in all sections. If any cans rupture, extinguish all ignition sources and ventilate spill area to dissipate vapors before collecting cans in sturdy container. A U.S. Dept. of Transportation approved container is preferred.

RECOMMENDED DISPOSAL:

Do not puncture or burn cans in household incinerator. Incinerate in permitted hazardous waste facility that can handle aerosol cans safely. Empty cans may be disposed in a sanitary landfill or commercial incinerator in accordance with applicable regulations. U.S. EPA Hazardous Waste Number: 0001 (Ignitable).

ENVIRONMENTAL DATA:

N/D

3M 043.2

3M Center
St. Paul, Minnesota 55144-1000
(612) 733-1110

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6. SUGGESTED FIRST AID

EYE CONTACT:

In case of eye contact, immediately flush eyes with plenty of water for at least 10 minutes. Call a physician.

SKIN CONTACT:

Wash with soap and water.

INHALATION:

If inhaled, remove to uncontaminated air. If not breathing give artificial respiration. Call a physician.

IF SWALLOWED:

If swallowed, do not induce vomiting. Call a physician immediately.

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7. PRECAUTIONARY INFORMATION

Keep product and its vapors away from heat, sparks and flames. Extinguish and do not ignite any flame in the immediate work area. Do not use in confined areas or areas with little or no air movement unless you employ means to circulate air and prevent vapor buildup. Avoid breathing vapor and overspray (airborne adhesive particles). Prevent eye and skin contact. Keep out of reach of children. Use protective equipment where possible, i.e. safety glasses and gloves. Local exhaust ventilation would be used if large quantities are sprayed in a short period of time.

3M 043.3

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(612) 733-1110

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DATA SHEET

MSDS: 3M Brand 5-May Penetrant
JULY 31, 1986

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8. HEALTH HAZARD DATA

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EYE CONTACT: Spray particulate and vapor may cause eye irritation.

SKIN CONTACT: Prolonged and repeated skin contact may defat skin leading to irritation and dermatitis.

INHALATION: Vapor or spray particulate overexposure may cause respiratory system irritation and light-headedness. Repeated overexposure to some hydrocarbon mixtures may cause kidney effects based on animal studies. 2-butoxyethanol vapors may cause blood changes based on animal studies. Symptoms of overexposure may include headache, dizziness, weakness, fatigue, and on extreme overexposure, unconsciousness.

INGESTION: Intentional concentration and swallowing the liquid product may cause severe digestive system irritation, nausea and vomiting. Chronic ingestion of kerosene may cause liver damage.

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The information on this Data Sheet represents our current data and best opinion as to the proper use in handling of this product under normal conditions. Any use of the product which is not in conformance with this Data Sheet or which involves using the product in combination with any other product or any other process is the responsibility of the user.

3M043.4



LPS-1 Greaseless Lubricant
 Part No. 00014 00116
 00914 00105
 30017 00155
 00917 31814
 37214

HOLT LLOYD CORPORATION

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME Holt Lloyd Corporation	TRADE NAME LPS-1 Greaseless Lubricant
ADDRESS (NUMBER, STREET) 4647 Hugh Howell Rd.	CHEMICAL FAMILY Petroleum Hydrocarbons
ADDRESS (CITY, STATE, ZIP) Tucker, GA 30084	U.S.D.A. CATEGORY H2
HAZARDOUS MATERIALS DESCRIPTION AND PROPER SHIPPING NAME (49 CFR 172.101) COMPOUND, BOILER, PRESERVING, LIQUID NMFC 50093 SUB 2 BRL/BXS CL55 CONSUMER COMMODITY ORM-D	EMERGENCY TELEPHONE NO. Holt Lloyd Corporation (404) 934-7800
Aerosol-ORM-D-AIR Bulk-Non-restricted.	MANUFACTURER'S D-U-N-S NO. 04-221-6549

SECTION II-INGREDIENTS

INGREDIENTS		%	TLV (CNITS)
Aliphatic Hydrocarbon	CAS No. 64742-96-7	70-80	150PPM
Aliphatic Petroleum Naptha	64742-06-9	20-30	150PPM
a Hazardous Proprietary Blend		3-5	NE
Carbon Dioxide Propellant (Aerosol Only)	CAS# 124-38-9	2-3	5,000

SECTION III-PHYSICAL DATA

BOILING POINT (°F)	350°	SPECIFIC GRAVITY (H ₂ O=1)	.80
VAPOR PRESSURE (mmHg)	.01	PERCENT VOLATILE BY WEIGHT (2) Wt.	95
VAPOR DENSITY (AIR=1)	4.7	EVAPORATION RATE (Ethyl Ether ⁽¹⁾)	200
SOLUBILITY IN WATER	No		

APPEARANCE AND ODOR
Clear, thin liquid-sweet odor

SECTION IV-FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED) 175° F T.C.C.	FLAMMABLE LIMITS Diluent	LEL 12	UEL 62
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EXTINGUISHING MEDIA
In CO2 or dry chemical

SPECIAL FIRE FIGHTING PROCEDURES
Do not use water. Treat as combustible petroleum distillates

ADDITIONAL FIRE AND EXPLOSION HAZARDS
Excessive heat created by fire will cause aerosols to burst.

EFFECTS OF OVEREXPOSURE

Eyes: Irritation

In: Repeated or prolonged contact may cause drying of skin.

Inhalation: Headache, dizziness, nausea and anesthetic effects.

EMERGENCY AND FIRST AID PROCEDURES

Eyes: Flush with copious amounts of cold water and contact physician.

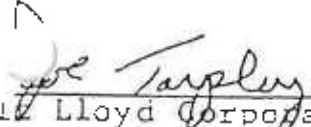
Skin: Wash with soap and water and then apply medicated skin cream.

Inhalation: Move to fresh air and contact physician.

Ingestion: Do not induce vomiting. Contact physician immediately.

Minute amounts aspirated into lungs during ingestion

may cause severe pulmonary injury.

SECTION VI-REACTIVITY DATASTABILITY: StableCONDITIONS TO AVOID: Avoid sparks or open flames (See handling and storing precautions.)INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizing agents such as liquid chlorine, concentrated oxygen or sodium hypochlorite.HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may yield carbon monoxide.HAZARDOUS POLYMERIZATION: Will not occur.SECTION VII-SPILL OR LEAK PROCEDURESSTEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Ventilate area by opening doors and windows. Remove ignition sources. Remove leaking container and transfer remaining product to another vessel. Prevent contact from going into sewers and water courses by diking or impounding. Using appropriate safety equipment, mop up or soak up with absorbent material, such as sand or clay.WASTE DISPOSAL METHOD: Dispose of in accordance with local, state and Federal regulations for petroleum distillates.RCRA HAZARDOUS WASTE NO. D 001 REPORTABLE QUANTITY 1000 KgSECTION VIII-SPECIAL PROTECTION INFORMATIONRESPIRATORY PROTECTION: None required if good ventilation is maintained. For enclosed areas, use NIOSH approved organic vapor cartridge respirator or self contained breathing apparatus.VENTILATION: Local exhaust is usually adequate. However, mechanical ventilation should be used when spraying in enclosed areas. Vapor concentration should be minimized as much as possible.PROTECTIVE GLOVES: Use solvent resistant gloves for liquid handling.EYE PROTECTION: Use face shield or goggles when spraying or splashing.OTHER PROTECTIVE EQUIPMENT: None.PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store aerosols below 120°F and above 32°F. Store bulk below 150°F and above 32°F. Store away from ignition sources and avoid breathing vapors. Wash hands with soap and water after use or before breaks and lunch and at the end of work periods. Remove contaminated clothing and laundry before reuse.


 Technical Service Manager

Holt Lloyd Corporation

September 20, 1985

Telephone No. - 1-800-241-8334

500 N.E. Multhoman St.
Suite 880
Portland, Ore. 97232
Phone: 503-238-7230

IDENTIFICATION

Product Name: Muriatic Acid, 20° Baume°

Pennwalt Code No.: 1730

Chemical Name and Molecular Formula: Hydrochloric Acid HCl

Synonyms: Hydrogen Chloride (Aqueous)

Emergency Phone Number(s): 503-228-7655/206-627-9101

CAS No.(s): 7647-01-0

Chemical Family: Acid

INGREDIENTS

MATERIALS OR COMPONENTS	%	HAZARD DATA (TLV, LD50, LC50, etc.)
Hydrogen Chloride (Aqueous)	32	TLV - 5 ppm

PROPERTIES

Boiling Point/Range: 110°C / 230°F (Azeotropic maximum 20.2% HCl)

Melting Point: - °C / - °F

Freezing Point: -46.4 °C / -52.0 °F

Molecular Weight (Calculated): 36.47

Specific Gravity (H₂O=1): 1.1600 @ 15.5 / 15.5 °C

Vapor Pressure (mm Hg): 28.05 @ 20 °C / 68 °F

Vapor Density (Air=1): N.A.

Solubility in H₂O (Anhy. HCl): 67% at 30°C

Volatiles by Volume: 100 %

Evaporation Rate: N.A. Ether = 1 Water = 1 Butylacetate = 1

Appearance and Odor: clear, slightly yellow liquid with sharp, pungent, irritating odor.

Flash Point: None °C / Non Flammable

Test Method: Non Flammable

Flammable Limits: None

Autoignition Temperature: None °C

EXTINGUISHING MEDIA

Water-spray Water-fog Water Stream CO₂ Dry Chemical Alcohol foam Foam Earth or sand

Other (specify):

SPECIAL FIRE FIGHTING PROCEDURES

Do not enter building Do not use water Allow fire to burn Other (specify): Keep containers cool. If this can be accomplished safely, move containers away from fire area.

UNUSUAL FIRE & EXPLOSION HAZARDS

Dust explosion hazard Sensitive to shock Contamination Temperature Other (specify): Non flammable, but reacts with most metals to evolve hydrogen gas which may cause fire or explosion in air.

STABILITY

Stable Unstable

CONDITIONS CONTRIBUTING TO UNSTABILITY

Thermal decomposition Photo degradation Polymerization

INCOMPATIBILITY - Avoid contact with

Strong acids Strong alkalis Strong oxidizers Other (specify):

HAZARDOUS DECOMPOSITION PRODUCTS - THERMAL AND OTHER (if any)

Hydrogen gas in contact with most metals.

CONDITIONS TO AVOID

Heat Open flames Sparks Ignition sources Other (specify):

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Flush with water Absorb with inert material Neutralize with lime Sweep or scoop up and remove Keep upwind. Evacuate enclosed spaces. Prevent spread or spill

Other (specify): Avoid contact with liquid or vapor

WASTE DISPOSAL METHOD - Consult federal, state, or local authorities for proper disposal procedures.

Other (specify): Dilute and neutralize with controlled quantities or alkali before disposal into sewer or surface water system.

stomach.

TOXICITY

Acute (acute)

Corrosive burns to all body tissues unless promptly washed off.

Eye

Causes very rapid severe damage

Inhalation

Immediately produces severe irritation of upper respiratory tract

Chronic

Repeated contact of skin with dilute solutions may lead to development of dermatitis. Inhalation effects usually limited to inflammation and occasionally ulceration of the nose, throat, and larynx. Vapor has such a sharp, penetrating odor that inhalation of toxic quantities is unlikely unless victim is trapped.

Other

HAZARD INFORMATION

Effects of Exposure

PERMISSIBLE EXPOSURE LIMIT

ACGIH 19 TLV 7mg/m³ OSHA 19 TWA

Other:

IRRITATION

Skin Eye Severe Moderate Mild (transient)

CORROSIVITY

Skin Eye Reversible Irreversible May cause blindness

SENSITIZATION

Skin Respiratory Allergen Narcotic effect Cyanosis Asphyxiant

LUNG EFFECTS (Specify):

Inhalation of vapor immediately produces severe irritation of upper respiratory tract. If inhaled deeply, edema of lungs may occur.

OTHER (Specify):

HEALTH

Emergency First Aid

INGESTION

Induce vomiting Do not induce vomiting Get medical attention Other (specify): Drink copious amounts of lime water or milk of magnesia.

DERMAL

Flush with water Get medical attention Other (specify): Do not apply oils or ointments to burned areas unless physician prescribes.

EYE CONTACT

Flush with plenty of water for at least 15 minutes Get medical attention Other (specify): Flush with water for additional 15 minutes if physician has not arrived.

INHALATION

Remove to fresh air If not breathing, give artificial respiration Give oxygen Get medical attention Other (specify):

SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS - Always maintain exposure below permissible exposure limits

Consult an industrial hygienist or environmental health specialist Local exhaust Use with adequate ventilation Check for air contaminant and oxygen deficiency

Other (specify): Equipment must be engineered to prevent any condensate formed from dropping on workers. Exhaust systems should be discharged to absorption or neutralizing equipment.

EYE

Face shield Safety glasses Goggles HAND (GLOVE TYPE) Butyl rubber Polyvinyl alcohol Other (specify): Polyvinyl chloride Neoprene Natural rubber Polyethylene

RESPIRATOR TYPE - Use only NIOSH / MESA approved equipment

Self-contained Supplied air Can or cartridge gas or vapor Filter - dust, fume, mist Other (specify):

OTHER PROTECTIVE EQUIPMENT

Rubber or Neoprene acid suit, rubber safety shoes and "hard" hat.

SPECIAL CAUTIONS

PRECAUTIONARY LABELING

Wash thoroughly after handling Do not get in eyes, on skin or clothing Do not breathe vapor Keep container closed Keep away from heat, sparks, and open flames Store in tightly closed containers Do not store near combustibles Keep from contact with clothing and other combustible materials Empty container may contain hazardous residues Use explosion proof equipment Other (specify):

Other handling and storage conditions

Consult Manufacturing Chemists Association Chemical Safety Data Sheet SD-39 for pertinent data.

Prepared by James E. Fike Date 9/25/78 Address 3 Parkway, Phila., PA 19102 Phone 215/587-7695

PLEASE NOTE The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse are beyond our control, Pennwalt MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.

