H	2*
F	0
R	1
PP	Sec. VIII

HMIS SYSTEM NPCA

Halstab
A DIVISION OF HAMMOND LEAD PRODUCTS, INC.
STABILIZERS

PRODUCT NAME
HALBASE 10

* *Also Chronic Effects See Sec VII*

MATERIAL SAFETY DATA SHEET

DATE PREPARED
AUGUST 15, 1988

SECTION I — MANUFACTURER AND PRODUCT INFORMATION

MANUFACTURER
HALSTAB DIVISION OF HAMMOND LEAD
3100 MICHIGAN
HAMMOND, IN 46323

FOR INFORMATION (219) 844-3980

FOR EMERGENCY (219) 931-9360
ASK FOR ENVIRONMENTAL COORDINATOR

PRODUCT
TRADE NAME — **HALBASE 10**
CHEMICAL NAME — ***Tribasic Lead Sulfate***

CHEMICAL FAMILY — ***Basic Lead Chemicals***
CAS # — ***12202-17-4***
FORMULA — ***$3\,PbO \cdot PbSo_4 \cdot H_2O$***

SECTION II — HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	NOT TO EXCEED %	TLV-TWA mg/m³-8hrs.	PEL mg/m³	TLV-C	BLV	LEL
TRIBASIC LEAD SULFATE (88.7% PbO)	**100**	**0.15 as Pb (ACGIH)**	**0.05 as Pb (OSHA)**	**NA**	**LEAD 50 mmg/100 g blood**	**NA**

SECTION III — PHYSICAL DATA

SPECIFIC GRAVITY H_2O = 1	***6.9***
MOLECULAR WEIGHT	***990.8***
SOLUBILITY IN H_2O g/l	***NIL***
APPEARANCE AND ODOR	***WHITE POWDER ODORLESS***
MELTING POINT	***DECOMPOSES***
BOILING POINT @760 MM Hg	*NOT APPLICABLE*
EVAPORATION RATE	*NOT APPLICABLE*
VAPOR PRESSURE MM Hg	*NOT APPLICABLE*
VAPOR DENSITY	*NOT APPLICABLE*
% VOLATILES BY VOLUME	*NOT APPLICABLE*

SECTION IV — REACTIVITY DATA

REACTIVITY	***NPCA HMIS RATING = 1***
STABILITY	***STABLE***
CONDITIONS TO AVOID	***TEMPERATURES IN EXCESS OF 400°F.***
INCOMPATIBILITY (Materials to Avoid)	***NONE KNOWN***
HAZARDOUS DECOMPOSITION PRODUCTS	***HIGH TEMPERATURES OR FIRE MAY PRODUCE LEAD OXIDE FUME. VAPOR OR DUST***
HAZARDOUS POLYMERIZATION	***NOT APPLICABLE***

DO 086232
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SECTION V — FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY *NPCA HMIS RATING = 0 (HALPHOS = 1)*	**DOT CATEGORY** *HALPHOS - FLAMMABLE SOLID — ALL OTHERS - NOT APPLICABLE*
FLASH POINT *NOT APPLICABLE*	**AUTO IGNITION TEMPERATURE** *NOT APPLICABLE*
EXTINGUISHING MEDIA *WATER FOG OR FLOOD, CO_2 AND DRY CHEMICAL*	**FLAMMABLE LIMITS** *NOT APPLICABLE*

SPECIAL FIRE FIGHTING PROCEDURES *Wear full body protective clothing and full face piece, self-contained breathing apparatus operated in positive-pressure mode.*

UNUSUAL FIRE AND EXPLOSION HAZARD *Fume, vapor, and/or dust may occur and are considered toxic and respiratory irritants. The product or dust can react vigorously with strong oxidizing agents. Refer to FIRE PROTECTION GUIDE ON HAZARDOUS MATERIALS by N.F.P.A. for specific individual problem combinations.*

SECTION VI — SPILL OR LEAK PROCEDURES

CLEAN UP METHODS *Clean the area of spill, returning all material possible to container. Wear gloves, goggles, respirator. Do not breathe or ingest dust. For a SMALL spill, use a vacuum. Do not broom sweep. Recovered material should be stored in dry containers for later disposition. Do not use compressed air for cleaning. Exclude all individuals not wearing protective equipment from the spill area until clean up is completed.*

WASTE DISPOSAL *Disposal of waste and hazardous material should be handled in a manner which complies with local, state and federal Environmental Protection Agency regulations. It is preferable to send waste material to a recycling facility which is approved by the state and federal EPA. City, state and federal regulations must be followed at all times.*

NEUTRALIZING CHEMICALS *Not Applicable*

SECTION VII — HEALTH HAZARD INFORMATION

HEALTH HAZARD
NPCA HMIS RATING = 2

ROUTES OF EXPOSURE WHEN HANDLING OR PROCESSING

Mode of entry into body:

1. *By **INHALATION** of dust or fumes, the respiratory system may be irritated and both acute and chronic overexposure can result.*
2. *By **INGESTION** of lead compounds coming from dust trapped in the upper respiratory tract or introduced into the mouth on food, tobacco, finger or other objects, both acute and chronic overexposure can result.*
3. ***SKIN CONTACT** of dust may cause irritation.*
4. ***SKIN ABSORPTION** does not apply, as dusts are not absorbed*
5. ***EYE CONTACT** of dust or fume may cause irritation.*

EFFECTS OF OVEREXPOSURE

***ACUTE OVEREXPOSURE:** Lead intoxication will occur with accompanying symptoms of constipation, sleep disturbance, fatigue, headache, loss of appetite. Where inhalation is severe from heavy dusting or a large quantity is ingested and left untreated, colic, anemia, vomiting and neuritis will follow as evidenced by intense periodic cramps, aching bones and muscles, uncoordinated body movements. Worst case situations could result in convulsions, stupor, coma, and encephalopathy.*

***CHRONIC OVEREXPOSURE:** Normal inhalation and/or ingestion of lead from the ambient air, foods and beverages is about 0.25 to 0.35 mg. per day. The normal adult metabolism can eliminate almost one mg. of lead per day. When lead ingested and/or inhaled exceeds the body's ability to eliminate it, accumulation can reach the point where symptoms and disability occur. In this context, lead has cumulative toxic effect.*

Early effects of chronic overexposure to lead are difficult to detect, but symptoms include persistent fatigue, sleep disturbance, headache, aching bones and muscles, constipation, abdominal pains and loss of appetite. Prolonged ingestion and/or inhalation may be indicated by intense periodic cramps and constipation, nausea and vomiting. Excessive exposure may affect blood, nervous (brain), digestive (stomach), renal (kidneys), or reproductive systems. Synthesis of hemoglobin is inhibited and will result in anemia. Apathy and depression may be symptoms. If left untreated, neuromuscular dysfunction, possible paralysis and encephalopathy can result. Unusual occurrence of symptoms should prompt immediate contact of a physician.

For industrial exposure, a worker's lead accumulation can be detected by an increase in blood lead above the base level established upon the employee's entry to the workplace. Blood lead above the biological limit value requires job removal.

***THE STATE OF CALIFORNIA** has determined that lead compounds cause birth defects. The product of this MSDS is not listed on the National Toxicology Program "Annual Report of Carcinogens".*

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION *- Remove from exposure. Get medical attention if experiencing effects of acute overexposure.*
INGESTION *- Induce vomiting in a conscious individual. Get immediate medical attention. Call a physician.*
SKIN *- Wash thoroughly with soap and water.*
EYES *- Flush with copious quantities of water. Get immediate medical attention.*

NOTES TO PHYSICIAN: *Lead and its inorganic compounds are neurotoxins which may produce peripheral neuropathy. For an overview of the effects of lead exposure, consult Occupational Safety and Health Adm. App. A of Occupational Exposure to Lead (29CFR1910.1025). "A Guide for Physicians, Health Maintenance of Workers Exposed to Inorganic Lead" is available from Lead Industries Association, Inc., 292 Madison Ave., New York, NY 10017.*

SECTION VIII — SPECIAL PROTECTION

SPECIFIC PERSONAL PROTECTION EQUIPMENT

RESPIRATORY: *As specified by 29CFR1910.1025(f) of the Federal Occupational Safety and Health Administration Standard for Occupational Exposure to Lead — When handling, use a dust/fume respirator with NIOSH/MSHA approval. Respirator must be worn if TLV is exceeded.*

Refer to Table II as specified in 29CFR1910.1025(f)(2)(i) for various exposure levels.

Other local, state, and federal regulations may also apply.

PROTECTIVE GLOVES: *Not required, but recommended.* ***EYE PROTECTION:*** *Not required, but recommended.*

OTHER CLOTHING AND EQUIPMENT: *Protective clothing is required if lead exposures exceed PEL or TLV; otherwise full body clothing should be worn during product use and handling, be left at the work site and be properly laundered after use, with the wash water disposed of in accordance with local, state and federal regulations. Hard hat, safety boots, and other safety equipment should be worn as appropriate for the industrial environment. Personal clothing, including shoes, should be protected from contamination.*

VENTILATION REQUIREMENTS

Ventilation as described in the ***Industrial Ventilation Manual,*** *by ACGIH shall be provided where exposures exceed PEL or TLV specified in and in accord with OSHA Standard 29CFR1910.94. Currently O.050 mg/m³ maximum and 0.030 mg/m³ set as trigger and action levels.*

Other local and state regulations may apply.

SECTION IX — DEFINITIONS

TLV-TWA – *Threshold Limit Value - Time Weighed Average*	**TLV-C** – *Threshold Limit Value - Ceiling*
ACGIH – *American Conference of Governmental Industrial Hygenists*	**BLV** – *Biological Limit Value*
PEL – *Permissible Exposure Limit*	**LEL** – *Lethal Exposure Limit*

SECTION X — SPECIAL PRECAUTIONS

PRECAUTIONS: *There are two major means of lead absorption; namely inhalation and ingestion. Most inhalation problems can be prevented with attention to ventilation and respirator use. Ingestion can be prevented with good hygiene practices.*

Do not inhale or swallow dust. Wash thoroughly after handling. Use gloves and avoid spilling on hands, face, or body, to prevent secondary contamination by ingestion or inhalation. Do not smoke, eat, or apply cosmetics in work area. Wash thoroughly before entering into eating areas. Do not wear any part of work clothing home. This includes shoes.

Keep lead materials away from feed and food products. Keep away from children. Do not reuse containers. This product is intended for industrial use only.

SECTION XI — OTHER HANDLING AND STORAGE REQUIREMENTS

Store in dry area where accidental contact with acids or bases is not possible.

When a spill releases material into the environment, it may be necessary to file a report of the discharge. Contact your local environmental authorities to determine what rules apply.

Avoid Skin contact.

Before using this product, be familiar with information contained in:

The Federal Standard For Occupational Exposure To Lead (29CFR1910.1025), first published in the Federal Register on Tuesday, November 14, 1978, by the Occupational Safety and Health Administration, and as also later modified.

Section 313 Supplier Notification: This product contains chemicals subject to the reporting requirements of the Emergency Planning and Community Right to Know Act of 1986 and of 40 CFR 372. Refer to Sections I and II for reporting information.

PREPARED BY: **TECHNICAL SERVICE DEPARTMENT**
HALSTAB DIVISION
HAMMOND LEAD PRODUCTS
3100 MICHIGAN, HAMMOND, INDIANA 46323

(ESSENTIALLY SIMILAR TO FORM OSHA 20 — U.S. DEPARTMENT OF LABOR)

H	2*
F	0
R	1
PP	Sec. VIII

HMIS SYSTEM NPCA

* *Also Chronic Effects See Sec. VII*

Halstab
A DIVISION OF HAMMOND LEAD PRODUCTS, INC.
STABILIZERS

PRODUCT NAME
HALCARB 20

MATERIAL SAFETY DATA SHEET

SECTION I — MANUFACTURER AND PRODUCT INFORMATION

MANUFACTURERS NAME	DATE	ISSUE #
HALSTAB DIVISION OF HAMMOND LEAD PRODUCTS	*10-28-85*	*1*

STREET ADDRESS	CITY, STATE, & ZIP	INFORMATION TELEPHONE NUMBER
3100 MICHIGAN	*HAMMOND, INDIANA 46323*	*(219) 844-3980*

EMERGENCY TELEPHONE NUMBER	CHEMICAL FAMILY
(219) 931-9360 ASK FOR ENVIRONMENTAL COORDINATOR	*BASIC LEAD CHEMICALS (STABILIZERS)*

TRADE NAME	CAS #	FORMULA
HALCARB 20	*1319-46-6*	$2PbCO_3 \cdot Pb(OH)_2$

SECTION II — HAZARDOUS INGREDIENTS

CHEMICAL NAME	PbO %	TLV-TWA mg/m³-8hr.	TLV-STEL mg/m³	TLV-C	BLV	LEL
BASIC LEAD CARBONATE	87.7 ± .3	0.03 as Pb	0.45 as Pb	NA	LEAD 50 mmg/100 g blood	NA

Material is a lead compound. Refer to Federal Register Vol. 43 #220 pp 53007-53014, Nov. 14, 1978. Standard (OSHA) - Occupational Exposure to Lead. Also code of Federal Regulation CFR Title 29 1910.1025.

SECTION III — PHYSICAL DATA

SPECIFIC GRAVITY H_2O = 1	*6.9 ± .1*
MOLECULAR WEIGHT	*775.7*
SOLUBILITY IN H_2O g/l	*NIL*
APPEARANCE AND ODOR	*WHITE POWDER ODORLESS*
MELTING POINT	*DECOMPOSES*
BOILING POINT @ 760 MM Hg	*NOT APPLICABLE*
EVAPORATION RATE	*NOT APPLICABLE*
VAPOR PRESSURE MM Hg	*NOT APPLICABLE*
VAPOR DENSITY	*NOT APPLICABLE*
% VOLATILES BY VOLUME	*NOT APPLICABLE*

SECTION IV — REACTIVITY DATA

REACTIVITY	*NPCA HMIS RATING = 1*
STABILITY	*STABLE TO 200°F LOSES CO_2 at 375°F*
CONDITIONS TO AVOID	*TEMPERATURES IN EXCESS OF 400°F.*
INCOMPATIBILITY (Materials to Avoid)	*REACTS WITH HYDROGEN PEROXIDE OR OTHER STRONG OXIDIZERS*
HAZARDOUS DECOMPOSITION PRODUCTS	*HIGH TEMPERATURES OR FIRE MAY PRODUCE FUME, VAPOR OR DUST*
HAZARDOUS POLYMERIZATION	*NOT APPLICABLE*

DO 086236
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SECTION V — FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY	DOT CATEGORY
NPCA HMIS RATING = 0 (HALPHOS = 1)	*HALPHOS - FLAMMABLE SOLID — ALL OTHERS - NOT APPLICABLE*

FLASH POINT	AUTO IGNITION TEMPERATURE	FLAMMABLE LIMITS
NOT APPLICABLE	*NOT APPLICABLE*	*NOT APPLICABLE*

EXTINGUISHING MEDIA
WATER FOG OR FLOOD, CO_2, AND DRY CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES *Wear full body protective clothing and full face piece, self-contained breathing apparatus operated in positive-pressure mode.*

UNUSUAL FIRE AND EXPLOSION HAZARD *Fume, vapor, and/or dust may occur and are considered toxic and respiratory irritants. The product or dust can react vigorously with strong oxidizing agents. Refer to FIRE PROTECTION GUIDE ON HAZARDOUS MATERIALS By N.F.P.A. for specific individual problem combinations.*

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WASTE DISPOSAL *Disposal of waste and hazardous material should be handled in a manner which complies with local, state and federal Environmental Protection Agency regulations. It is preferable to send waste material to a recycling facility which is approved by the state and federal EPA. City, state and federal regulations must be followed at all times.*

NEUTRALIZING CHEMICALS *Not Applicable*

SECTION VII — HEALTH HAZARD INFORMATION

HEALTH HAZARD
NPCA HMIS RATING = 2

ROUTES OF EXPOSURE WHEN HANDLING OR PROCESSING

Mode of entry into body:

1. *By **INHALATION** of dust or fumes, the respiratory system may be irritated and both acute and chronic overexposure can result.*
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5. ***EYE CONTACT** of dust or fume may cause irritation.*

EFFECTS OF OVEREXPOSURE

***ACUTE OVEREXPOSURE:** Lead intoxication will occur with accompanying symptoms of constipation, sleep disturbance, fatigue, headache, loss of appetite. Where inhalation is severe from heavy dusting or a large quantity is ingested and left untreated, colic, anemia, vomiting and neuritis will follow as evidenced by intense periodic cramps, aching bones, muscles, uncoordinated body movements. Worst case situations could result in convulsions, stupor, coma, and encephalopathy.*

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For industrial exposure, a worker's lead accumulation can be detected by an increase in blood lead above the base level established upon the employee's entry to the workplace. Blood lead above the biological limit value requires job removal.

EMERGENCY AND FIRST AID PROCEDURES:

***INHALATION** - Remove from exposure. Get medical attention if experiencing effects of acute overexposure.*
***INGESTION** - Induce vomiting in a conscious individual. Get immediate medical attention. Call a physician.*
***SKIN** - Wash thoroughly with soap and water.*
***EYES** - Flush with copious quantities of water. Get immediate medical attention.*

***NOTES TO PHYSICIAN:** Lead in its inorganic compounds are neurotoxins which may produce peripheral neuropathy. For an overview of the effects of lead exposure, consult Occupational Safety and Health Adm. App. A of Occupational Exposure to Lead (29CFR1910.1025). "A Guide for Physicians, Health Maintenance of Workers Exposed to Inorganic Lead" is available from Lead Industries Association, Inc., 292 Madison Ave., New York, NY 10017.*

SECTION VIII — SPECIAL PROTECTION

SPECIFIC PERSONAL PROTECTION EQUIPMENT

***RESPIRATORY:** As specified by 29CFR1910.1025(f) of the Federal Occupational Safety and Health Administration Standard for Occupational Exposure to Lead -- When handling, use a dust/fume respirator with NIOSH/MSHA approval. Respirator must be worn if TLV is exceeded.*

Refer to Table II as specified in 29CFR1910.1025(f)(2)(i) for various exposure levels.

Other local, state, and federal regulations may also apply.

***PROTECTIVE GLOVES:** Not required, but recommended.* ***EYE PROTECTION:** Not required, but recommended.*

***OTHER CLOTHING AND EQUIPMENT:** Protective clothing is required if lead exposures exceed PEL or TLV; otherwise, full body clothing should be worn during product use and handling, be left at the work site and be properly laundered after use, with the wash water disposed of in accordance with local, state and federal regulations. Hard hat, safety boots, and other safety equipment should be worn as appropriate for the industrial environment. Personal clothing, including shoes, should be protected from contamination.*

VENTILATION REQUIREMENTS

*Ventilation as described in the **Industrial ventilation Manual**, by ACGIH shall be provided where exposures exceed PEL or TLV specified in and in accord with OSHA Standard 29CFR1910.94. Currently 0.050 mg/m³ maximum and 0.030 mg/m³ set as trigger and action levels.*

Other local and state regulations may apply.

SECTION IX — DEFINITIONS

TLV-TWA - *Threshold Limit Value-Time Weighted Average*	BLV - *Biological Limit Value*
TLV-STEL - *Threshold Limit Value-Short Term Exposure Limit*	LEL - *Lethal Exposure Limit*
TLV-C - *Threshold Limit Value - Ceiling*	PEL - *Permissible Exposure Limit*

SECTION X — SPECIAL PRECAUTIONS

***PRECAUTIONS:** There are two major means of lead absorption; namely inhalation and ingestion. Most inhalation problems can be prevented with attention to ventilation and respirator use. Ingestion can be prevented with good hygiene practices.*

Do not inhale or swallow dust. Wash thoroughly after handling. Use gloves and avoid spilling on hands, face, or body, to prevent secondary contamination by ingestion or inhalation. Do not smoke, eat, or apply cosmetics in work area. Wash thoroughly before entering into eating areas. Do not wear any part of work clothing home. This includes shoes.

Keep lead materials away from feed and food products. Keep away from children. Do not reuse containers. This product is intended for industrial use only.

SECTION XI — OTHER HANDLING AND STORAGE REQUIREMENTS

Store in dry area where accidental contact with acids or bases is not possible.

When a spill releases material into the environment, it may be necessary to file a report of the discharge. Contact your local environmental authorities to determine what rules apply.

Avoid Skin contact.

Adhere to all personal protection procedures and ventilation requirements when exposure limits exceed PEL or TLV.

Before using this product, be familiar with information contained in:
The Federal Standard For Occupational Exposure To Lead (29CFR1910.1025), first published in the Federal Register on Tuesday, November 14, 1978, by the Occupational Safety and Health Administration, and as also later modified.

PREPARED BY: **TECHNICAL SERVICE DEPARTMENT**
HALSTAB DIVISION
HAMMOND LEAD PRODUCTS
3100 MICHIGAN, HAMMOND, INDIANA 46323