



Synthesizing intermediates
for the chemical industry

 **Hari Orgochem Pvt. Ltd.**

ISO 9001
BUREAU VERITAS
Certification



008



Profile

Chloritech Industries (CTI) was founded in 1977 to manufacture Chloral as a pesticide intermediate for Dichlorvos and DDT. The company specializes in bulk chlorination using glass lined vessels ranging from 500 Lts to 10,000 Lts capacity.

CTI has a capacity to produce 6000 MT of Chloral per year. The company also produces Ethyl Chloride (1800 MT per year), Chloral Hydrate and Trichloroacetic Acid (Technical and ACS Grade). CTI has its own ISO for exporting Chloral and Ethyl Chloride.

Hari Orgochem Pvt. Ltd (HOPL) was established in 1985 to manufacture Trichloroacetyl Chloride (Agrochemical Intermediate for Chlorpyrifos) and Pivaloyl Chloride (Pharmaceutical and Agrochemical Intermediate).

HOPL's Nandesari Unit utilizes over 50 Glass Lined Reactors and has a capacity to produce 8000 MT per annum of Acid Chlorides. The company has adequate infrastructure to handle hazardous chemicals like Chlorine, Thionyl Chloride and Sulfur Monochloride.

HOPL's Manjusar Unit is spread over 20 acres of land and is configured as a multi-purpose plant. The unit specializes in handling contract manufacturing as well as synthesizing chemicals on a semi-bulk scale (10 MT – 1000 MT/year) and specialty applications. Some of the unit processes performed here include Nitration, Fractional Distillation, Photo-chlorination, Ammonolysis and Esterification.

The group also has business interests in the field of Silk Textiles and Agricultural Biotechnology.





A world of chemical intermediates



Core Competencies

The strength of our group is derived from the capability to handle different chemistries and synthesize products in-house along with successful execution of the scale-up from lab-scale to bulk quantities. We have expertise in handling corrosive and hazardous chemicals and are especially strong in chlorinated products.

| | |
|-------------------------------------|----------------|
| Chlorination (direct and in direct) | Esterification |
| Photochlorination | Ammonolysis |
| Nitration | Fractionation |

Quality

At Chloritech Industries and Hari Orgochem Pvt. Ltd., we take pride in manufacturing and supplying products of the best quality to our customers. We are also committed to ensure that our products are adequately packed and transported so that they reach our customers in a safe condition.

Hari Orgochem Pvt. Ltd. is an **ISO 9001:2008** certified company.





Chloral Anhydrous

| | |
|------------------|-------------------------|
| Nomenclature | Trichloroacetaldehyde |
| Formula | CCl_3CHO |
| CAS Number | 75-87-6 |
| Molecular Weight | 147.4 gm/mole |
| Appearance | Clear colourless liquid |

SPECIFICATIONS:

| | |
|------------------------------------|-----------|
| Assay (by G.C) | 99% Min |
| Dichloroacetaldehyde | 0.3% Max. |
| Moisture Content (By Karl Fischer) | 0.02% Max |
| Acidity (as HCl) | 0.1% Max |

OTHER INFORMATION:

| | |
|-------------|---|
| Packing | 280 kg HDPE or HDPE lined MS drums or in Isotanks |
| UN Number | 2075 |
| Storage | Keep away from moisture, alkali and acids. Store in a cool dry place, away from light |
| Precautions | Corrosive to skin |



Note: The information given in this Data Sheet is based on the present state of our knowledge. Any conclusions and recommendations are made without liability on our part. Buyers and users should make their own assessment of our products under their own conditions and for their own requirements.



Chloral Hydrate

| | |
|------------------|---|
| Nomenclature | 2,2,2-Trichloro-1,1-diol, Trichloroacetaldehyde monohydrate |
| Formula | $C_2H_3Cl_3O_2$ |
| CAS Number | 302-17-0 |
| Molecular Weight | 165.4 gm/mole |
| Appearance | White Crystals |

SPECIFICATIONS:

| | |
|----------------------|--------------------|
| Assay (by titration) | 99% - 103% w/w Min |
| Moisture Content | 11.5% w/w Max |

USES:

Electrolysis, Pickling agent, Pharmaceutical as a drug

OTHER INFORMATION:

| | |
|-------------|---|
| Packing | 50 Kgs with LDPE double liners in open mouth HDPE carboys |
| Storage | Keep away from moisture, water and alkali. Store in a cool dry place, away from light |
| Precautions | Harmful, Sedative |

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Ethyl Chloride

| | |
|------------------|------------------------------------|
| Nomenclature | Ethyl Chloride, Chloroethane |
| Formula | CH ₃ CH ₂ Cl |
| CAS Number | 75-00-3 |
| Molecular Weight | 64.5 gm/mole |
| Appearance | Liquefied gas |

SPECIFICATIONS:

| | |
|--------------------------------------|-----------------|
| Acidity as HCl or Alkalinity as NaOH | 10 ppm w/w Max |
| Moisture Content | 250 ppm w/w Max |
| Assay (by G.C) | 99.9% Min |

USES:

Used for Ethyl Cellulose, Dye Intermediates, Pharmaceutical products and in Petrochemical and Polymer industry

OTHER INFORMATION:

| | |
|-------------|---|
| Packing | 200 Kgs. & 600 Kgs. Cylinders and in IMO 5 gas tank |
| UN Number | 1037 |
| Storage | Keep away from direct sunlight, heat or flame |
| Precautions | Toxic and irritating gases are produced in a fire. Highly flammable liquefied gas |



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Hexachloroacetone

| | |
|------------------|--|
| Nomenclature | Hexachloroacetone, Perchloroacetone, HCA |
| Formula | $\text{Cl}_3\text{C-CO-CCl}_3$ |
| CAS Number | 116-16-5 |
| Molecular Weight | 264.75 gm/mole |
| Appearance | Clear Colourless Liquid |

SPECIFICATIONS:

| | |
|------------------|--------------|
| Assay (by GC) | 99% Min |
| Moisture Content | 0.3% w/w Max |

USES:

In producing insect repellent. Chlorinating agent for drugs. In manufacture of Hexafluorobisphenol A

OTHER INFORMATION:

| | |
|-------------|--|
| Packing | 50Kgs or 250 Kgs. HDPE drums, or as specified |
| UN Number | 2661 |
| Storage | Keep containers tightly closed and store in a cool dry place |
| Precautions | Keep away from alkalis |

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Trichloroacetic Acid

| | |
|------------------|---------------------------|
| Nomenclature | Trichloroacetic Acid |
| Formula | CCl_3COOH |
| CAS Number | 76-03-9 |
| Molecular Weight | 163.4 gm/mole |
| Appearance | White Crystals |

SPECIFICATIONS:

| | |
|----------------------|--------------|
| Assay (by titration) | 99% w/w Min |
| Moisture Content | 0.5% w/w Max |

USES:

Manufacturing of Pharmaceutical and Cosmetic products, Organic Synthesis, Sun Protection films and surface treatment of metals

OTHER INFORMATION:

| | |
|-------------|--|
| Packing | 25 or 50 Kgs. HDPE open mouth drums, or as specified |
| UN Number | 1839 |
| Storage | Keep containers tightly closed and store in a cool dry place Provide good ventilation |
| Precautions | Toxic by inhalation. Contact with skin causes severe burns. Highly Reactive with Alkali |

Also available in ACS (American Chemical Standard) Grade

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Oxalyl Chloride

| | |
|------------------|---|
| Nomenclature | Oxalic Dichloride, Oxalyl Dichloride |
| Formula | $(\text{COCl})_2$ |
| CAS Number | 79-37-8 |
| Molecular Weight | 126.93 g/mole |
| Appearance | Clear colourless to light yellow liquid |

SPECIFICATIONS:

| | |
|----------------|-----------|
| Assay (by G.C) | 99.0% Min |
|----------------|-----------|

USES:

In organic synthesis and for pharma intermediates

OTHER INFORMATION:

| | |
|-------------|---|
| Packing | 50 kgs or 250 kgs net weight galvanised iron drums |
| UN Number | 2927 |
| Storage | Keep away from moisture |
| Precautions | Use gloves, goggles, nose mask while handling. Strong irritant to skin. |

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Sodium Trichloroacetate

| | |
|------------------|----------------------------|
| Nomenclature | Sodium Trichloroacetate |
| Formula | CCl_3COONa |
| CAS Number | 650-51-1 |
| Molecular Weight | 185.4 gm/mole |
| Appearance | White Powder |

SPECIFICATIONS:

| | |
|----------------------|--------------|
| Assay (by titration) | 98% w/w Min |
| Moisture Content | 0.5% w/w Max |

USES:

Manufacture of Herbicide and as a textile auxillary

OTHER INFORMATION:

| | |
|-------------|--|
| Packing | Packing 25 or 50 Kgs with LDPE double liners in HDPE wide mouth carboys, or as specified |
| Storage | Keep away from moisture |
| Precautions | Use face mask, gloves, gum boot and PVC apron during handling. Avoid dusting. May cause irritation on skin |

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Trichloroacetyl Chloride

| | |
|------------------|---|
| Nomenclature | Trichloroacetyl Chloride |
| Formula | CCl_3COCl |
| CAS Number | 76-02-8 |
| Molecular Weight | 181.8 gm/mole |
| Appearance | Clear colourless to light yellow liquid |

SPECIFICATIONS:

| | |
|-------------------------|----------|
| Assay (by G.C) | 99% Min |
| Dichloroacetyl Chloride | 0.2% Max |

USES:

For manufacture of Chloropyriphos and Organic Synthesis

OTHER INFORMATION:

| | |
|-------------|--|
| Packing | 250 and 280 Kgs in HDPE drums or HDPE lined MS drums |
| UN Number | 2442 |
| Storage | Keep away from moisture and water |
| Precautions | Lachrymatory and corrosive to the skin |

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intermediates



Chloritech Industries



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