



## Safety Data Sheet (SDS)

Revision / Review Date: 5/22/2015

### 1. Chemical Product and Company Identification

Product Name:	790 Aromatic Oil
Distributed By:	HB Chemical 1665 Enterprise Parkway Twinsburg Oh 44087 Phone - 330-920-8023
MSDS Prepared By (w Suppliers Input):	HB Chemical
Chemical Name / Family:	Extracts (petroleum), heavy paraffinic distillate solvent.
Product Use:	Process Oil
CAS No.:	64742-04-7
OSHA Status	Hazardous

For emergency health, safety, and environmental information, calls 330-920-8023

For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300

### 2. Hazard(s) Identification

<u>Classification of the substance or mixture:</u>	Carcinogenicity-Category 1B  Toxic to reproduction (Unborn child)-Category 2  Specific Target organ Toxicity (Repeated Exposure) (adrenal, bone marrow, kidneys, liver, lymphatic system, stomach and thymus)-Category 1
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GHS label elements:

Signal word:

Danger

Hazard statements:

May cause cancer. Suspected of damaging the unborn child. Causes damage to organs through prolonged or repeated exposure ( adrenal, bone marrow, kidneys, liver, lymphatic system, stomach, thymus).

Precautionary statements

Prevention:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe vapors. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

<u>Response:</u>	Store locked up.
<u>Storage:</u>	Dispose of contents and container in accordance with all local, regional, national and international regulations.
<u>Supplemental label elements:</u>	Repeated exposure may cause skin dryness or cracking. Defatting to the skin. Heated material can cause thermal burns.
<u>Hazards not otherwise classified:</u>	this substance/mixture does not meet the PBVBT/vPvB criteria for REACH, ANNEX XIII.

### 3. Composition / Information on Ingredients

Substance/mixture: Substance.

<b>Ingredient name</b>	<b>%</b>	<b>CAS number</b>
Extracts (petroleum), heavy paraffinic distillate solvent	100	64742-04-7

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

Based on the vendor knowledge of this product, there are no additional ingredients present that are classified as hazardous to health or to the environment, which require reporting in this section. As applicable, see Section 8 for Occupational Exposure Limits.

### 4. First Aid Measures

#### Description of necessary first aid measures

##### Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen and continue monitoring by trained personnel. Get immediate medical attention if victim is unconscious. Seek medical attention if cough or other symptoms develop.

##### Eyes:

Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Remove contact lenses. If eye irritation persists, obtain medical treatment. For contact with heated product flush immediately with plenty of cool water for at least 15 minutes. Get medical attention

##### Skin:

Wash with soap and water. Get medical attention if irritation develops or persists. Remove contaminated clothing and wash before reuse. For contact with heated product, flush immediately with plenty of cool water for at least 15 minutes.

##### Ingestion:

If large amounts are swallowed, contact a physician or poison control center. Never give anything by mouth to an intoxicated, unconscious or convulsing person. Get medical attention immediately.

##### Most important symptoms

<u>Eye Contact:</u>	Slightly irritating to the eyes. May cause tearing, burning sensation and redness. Contact with product at elevated temperatures may result in thermal burns.
<u>Inhalation:</u>	Vapors and/or mists which may be formed at elevated temperatures may be irritation to eyes, nose, throat, upper respiratory tract and lungs.
<u>Skin Contact:</u>	May cause skin dryness, irritation and defatting of the skin. Contact with product at elevated temperatures may result in thermal burns.
<u>Ingestion:</u>	Gastrointestinal tract irritation with possible nausea, vomiting and diarrhea.
<u>Also see toxicological information (Section 11)</u>	
<u>Indication of immediate medical attention and special treatment needed, if necessary.</u>	
<u>Notes to physician:</u>	Treat symptomatically. Contact physician or poison control center immediately if large quantities have been ingested or inhaled.
<u>Specific treatments:</u>	No specific treatment.
<u>Protection of medical responders:</u>	Do not attempt to take action without suitable protective equipment. See section 8 for additional information on protection measures. Wash contaminated clothing thoroughly with water before removing it or wears gloves.

## **5. Fire-Fighting Measures**

<u>Suitable Extinguishing Media:</u>	In case of fire, use water spray (fog), regular foam, dry chemical or carbon dioxide. Carbon dioxide and displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.
<u>Unsuitable Extinguishing Media:</u>	Do not direct solid streams into the hot burning liquid.
<u>Specific hazards arising from the chemical:</u>	Use water spray or fog to cool exposed containers. Closed containers of this material may exploded when subjected to heat from surrounding fire.
<u>Hazardous thermal decomposition products:</u>	Decomposition products may include the following material: Carbon dioxide, Carbon monoxide and other asphyxiates.
<u>Special protective action for fire-fighters:</u>	Fight fire from a safe distance and protected location. Exercises caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers.

Special protective equipment for fire-fighters:

Wear structural firefighting gear. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. Accidental Release Measures**

Personal precaution, protective equipment and emergency procedures

For non-emergency personnel:

Remove ignition sources. Ensure adequate ventilation. Do not attempt to take action without suitable protective equipment. See Section 8 for additional information on protection measures.

For emergency responders:

Remove ignition sources. Ensure adequate ventilation. Do not attempt to take action without suitable protective equipment. See Section 8 for additional information on protection measures.

Environmental precautions:

Do not allow spilled material to runoff and contact soil, waterways, drains and sewers.

Methods and materials used for containment and clean-up

Small spill:

Contain spilled liquid with sand or earth. DO NOT use combustible material such as sawdust. Use appropriate personal protective equipment as stated in Section 8. Advise the Environmental Protection Agency (EPA) and appropriate state agencies, if required. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Vacuum or sweep up material and place in a disposal container. Dispose of via a licensed waste disposal contractor.

Large spill:

Stop leak if possible without risk. Approach release from upwind. Prevent entry of release material into sewers, waterways, basements or confined areas. Contain spilled liquid with sand or earth DO NOT use combustible material such as sawdust. Use appropriate personal protective equipment as stated in Section 8. Advise the Environmental Protection Agency (EPA) and appropriate state agencies, if required. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Vacuum or sweep up material and place in a disposal container. Dispose of via a licensed waste disposal contractor.

**7. Handling and Storage:**

Precautions to be taken in handling:

Protective measures:

Wear appropriate personal protective equipment (see Section 8). Do not get into eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation or wear appropriate respirator. High pressure skin injection is a medical emergency. The injury will not appear serious at first

but within a few hours, the affected tissue will appear swollen, discolored and extremely painful. Follow all SDS/label precautions even after container is emptied because it may contain product residue.

Advice on general hygiene practices:

Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Remove contaminated clothing and protective equipment prior to entering eating areas.

Conditions for safe storage, including any incompatibilities:

NFPA Class IIIB storage. Combustible liquid. Flash point is greater than 200° F (93.3°C). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use..

**8. Exposure Controls / Personal Protection**

Occupational exposure limits

Ingredient name	Exposure limits
Oil mist, mineral	<b>OSHA PEL</b> TWA: 5 mg/m <sup>3</sup> <b>ACGIH TLV</b> TWA: 5 mg/m <sup>3</sup> Form: inhalable fraction <b>NIOSH REL (United States, 1/2013).</b> TWA: 5 mg/m <sup>3</sup> 10 hours. Form: Mist STEL: 10 mg/m <sup>3</sup> 15 minutes. Form: Mist
Polycyclic Aromatic Hydrocarbons	<b>OSHA PEL (United States, 6/1993).</b> TWA: 0.2 mg/m <sup>3</sup> . Form: Benzene-soluble <b>ACGIH TLV (United States, 3/2004).</b> TWA: 0.2 mg/m <sup>3</sup> . Form: Benzene-soluble

Appropriate engineering controls:

Use with adequate ventilation. Local exhaust ventilation may be necessary when handling or using this product to keep exposure to airborne contaminants below the exposure limit.

Personal Protective Measures

Personal hygiene measures:

Wash thoroughly after handling. Wash contaminated clothing before reusing. Ensure that eyewash station and safety showers are close to the workstation location.

Eye and Face protection:

Safety glasses with side shields or splash proof chemical goggles are recommended to protect against the splash of product.

Hand protection:

Protective gloves are recommended to protect against contact with product. The gloves listed may provide protection against permeation: neoprene, nitrile, polyvinyl alcohol, Viton Gloves of the other chemically resistant materials may not provide adequate protection.

<u>Other body protection:</u>	Where splashing is possible, fully chemical resistant protective clothing (e.g. Acid suit) and boots are recommended. Wear insulated impervious protection gear to protect against the splashing of product. The following materials are acceptable for use as protective clothing: polyvinyl alcohol (PVA): neoprene: nitrile: Viton. Wear appropriate footwear.
<u>Respiratory protection:</u>	Concentration in air determines the level of respiration protection needed. Use only NIOSH certified respiratory equipment. Respiratory protection is not usually needed unless Product is heated or misted. Half-mask air purifying respirator with dust/mist filters or HEPA filter cartridges is acceptable for exposures to the (10) times the exposure limit. Full –face air purifying respirator with dust / mist filters or HEPA filter cartridges is acceptable. For exposures to fifty (50 times the exposure limits. If exposure is above the IDLH (immediately Dangerous to life and Health) or there is the possibility of an uncontrolled release, or exposure levels are unknown, then use a positive pressure-demand full-face supplied air respirator with escape bottle or SCBA. Wear a NIOSH-approved (or equivalent) full face piece airline respirator in the positive pressure mode with emergency escape provisions.
<u>Decontamination Facilities:</u>	Eye bath, washing facilities (sinks / showers)

## 9. Physical and Chemical Properties

<u>Appearance</u>	
<u>Physical state:</u>	Liquid. [Viscous]
<u>Color:</u>	Dark
<u>Odor:</u>	Slight
<u>Odor threshold:</u>	Not available
<u>pH:</u>	Not applicable
<u>Melting point:</u>	Pour point [ASTM D5950]: 12°C (54°F)
<u>Boiling point:</u>	289 to 527°C (554 to 980°F) [ASTM D2887]
<u>Flash point:</u>	Closed cup [ASTM D92]: 210°C (410°F)
<u>Evaporation rate:</u>	Not available
<u>Flammability (solid, gas):</u>	Not available
<u>Lower and upper explosive (flammable) limits:</u>	Not available
<u>Vapor pressure:</u>	<0.000013 kPa (<0.0001 mm Hg) (37.8°C (100°F))
<u>Vapor density:</u>	Not available
<u>Specific gravity:</u>	0.98 [16°C (60°F)] [ASTM D1250]
<u>Bulk density:</u>	8.1 lbs/gal [ASTM D1250]
<u>Solubility:</u>	Insoluble in the following materials: cold water and hot water
<u>Partition coefficient:</u>	
<u>n-octanol/water:</u>	.4
<u>Auto-ignition temperature:</u>	388°C (730°F) [ASTM D2155]
<u>Decomposition temperature:</u>	Not available
<u>Viscosity:</u>	Kinematic (40°C (104°F)): 4.775 cm <sup>2</sup> /s (477.5 cSt) [ASTM D445] Kinematic (100°C (212°F)): 0.1598 cm <sup>2</sup> /s (15.98 cSt) [ASTM 445]

Molecular weight:

Kinematic (100°F): 2703 SUS [ASTM D2161]  
377 g/mole

## **10. Stability and Reactivity**

Reactivity:

No specific test data related to reactivity available for this product or its ingredients.

Chemical stability:

The product is stable.

Possibility of hazardous reactions:

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid:

Keep away from heat, sparks and flame.

Incompatible materials:

Reactive or incompatible with the following materials:  
oxidizing materials

Hazardous decomposition products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition products may include the following materials:  
Carbon dioxide, Carbon monoxide and other asphyxiants.

## **11. Toxicological Information**

Likely Routes of Exposure:

Routes of entry anticipated: Oral, Dermal, Inhalation.

Symptoms related to the physical, chemical and Toxicological characteristics

Eye contact:

Slightly irritating to the eyes. May cause tearing, burning sensation and redness. Contact with product at elevated temperatures may result in thermal burns. This material is not listed as a carcinogen or potential carcinogen by NTP, IARC, or OSHA. It may contain a small residual amount of naphthalene which is listed in Group 2B by IARC.

Inhalation:

Vapors and/or mists which may be formed at elevated temperatures may be irritating to eyes, nose, throat, upper respiratory tract and lungs.

Skin contact:

May cause skin dryness, irritation and defatting of the skin. Contact with product at elevated temperatures may result in thermal burns.

Ingestion:

Gastrointestinal tract irritation with possible nausea, vomiting and diarrhea.

Information on toxicological effects

Basis for Assessment:

Product has not been tested. Information given is based on data on individual components or similar materials. Samples of distillate aromatic extracts (DAEs) have been tested in acute oral, dermal and inhalation studies.



<b>Acute Toxicity:</b> Extracts (petroleum), heavy paraffinic distillate solvent	Not classified as acutely toxic.
Acute Oral Toxicity: Rat, LD50>5000 mg/kg bodyweight	
Acute Dermal Toxicity: Rabbit, LD50>3000 mg/kg bodyweight	
Acute Inhalation Toxicity: Rat, 4 hr, LC50>5 mg/L	
<b>Skin Corrosion/Irritation:</b>	Mild Irritant. May cause skin dryness or cracking. Heated material can cause thermal burns.
<b>Eye Irritation:</b>	May cause slight transient irritation. Heated material can cause thermal burns.
<b>Skin Sensitization:</b>	No evidence of skin sensitization.
<b>Respiratory Sensitization:</b>	No evidence of respiratory sensitization.
<b>Germ Cell Mutagenicity:</b>	Not considered to be a germ cell mutagen.
<b>Carcinogenicity:</b>	Cancer hazard, based on skin-painting studies using laboratory animals, involving continuous, long-term contact. IARC: Group 1. Risk of cancer depends on duration and level of exposure.
<b>Reproductive Toxicity:</b>	Not considered to be toxic to the reproductive system.
<b>Teratogenicity:</b>	Possible risk of harm to the unborn child. May cause increase in fetal deaths, reduced fetal weight and skeletal Malformations.
<b>Aspiration Hazard:</b>	Not expected to be an aspiration hazard.
<b>Specific target organ toxicity (single exposure):</b>	Acute exposure studies show no evidence of systemic toxicity.
<b>Specific target organ toxicity (repeated exposure):</b>	Target organs: Adrenal, bone marrow, kidneys, liver, lymphatic system, stomach and thymus.

## 12. Ecological Information

**Basis for Assessment:** Product has not been tested. Information given is based on data on individual components or similar materials. Samples of distillate aromatic extracts (DAEs) have been tested in fish, invertebrates and algae. These substances are poorly soluble mixtures. Additionally, they may cause physical fouling of aquatic organisms

**Ecotoxicity:** Toxic to aquatic organisms, with long lasting effects.

Product/ingredient name	Result	Species	Exposure
Extracts (petroleum), heavy paraffinic distillate solvent	Acute EC50 18.8 mg/L	Algae	96 hours
	Acute EC50 35.9 mg/L	Daphnia	48 hours
	Acute EC50 1000 mg/L	Fish	96 hours
	Chronic NOEL 0.1- 1 mg/l *	Daphnia magna	

\* Chronic aquatic toxicity studies on Daphnia magna exposed to samples of DAEs show variable chronic toxicity, with NOEL values between 0.1 and 1 mg/l.

**Persistence and degradability:** Not readily biodegradable. Considered to be inherently







	biodegradable.
<u>Bio accumulative potential:</u>	Constituents of DAEs show measured or predicted values for log Kow $\geq 4$ and are considered potentially bio accumulative.
<u>Mobility in soil:</u>	Not available.
<u>Other adverse effects:</u>	No known significant effects or critical hazards.

### 13. Disposal Considerations

Disposal methods: Follow federal, state and local regulations. This material is not a RCRA hazardous waste, if not contaminated. If material has been "used", RCRA criteria (ignitability, reactivity, corrosively and toxicity) must be determined.

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe manner. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers may retain some product residue. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

### 14. Transport Information

	<b>DOT Classification</b>	<b>TDG Classification</b>	<b>Mexico Classification</b>	<b>ADR/RID</b>	<b>IMDG</b>	<b>IATA</b>
<b>UN number</b>	Not regulated.	Not regulated.	UN3082	UN3082	UN3082	UN3082
<b>UN proper shipping name</b>	—	—	SUBSTANCIA LIQUIDA POTENCIALMENTE PELIGROSAS PARA EL MEDIO AMBIENTE, N.E.P. (Extracts (petroleum), heavy paraffinic distillate solvent)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Extracts (petroleum), heavy paraffinic distillate solvent)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Extracts (petroleum), heavy paraffinic distillate solvent). Marine pollutant (Extracts (petroleum), heavy paraffinic distillate solvent)	Environmentally hazardous substance, liquid, n.o.s. (Extracts (petroleum), heavy paraffinic distillate solvent)
<b>Transport hazard class(es)</b>	—	—				
<b>Packing group</b>	—	—	III	III	III	III

Environmental hazards	Yes	Yes	Yes	Yes	Yes	Yes
<b>Additional information</b>	—	—	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. <b>Special provisions</b> 274, 331, 335	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. <b>Hazard identification number</b> 90 <b>Limited quantity</b> 5 L <b>Special provisions</b> 274, 335, 601 <b>Tunnel code</b> (E)	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. <b>Emergency schedules (EmS)</b> F-A, S-F <b>Special provisions</b> 274, 335	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. <b>Passenger and Cargo Aircraft</b> Quantity limitation: 450 L Packaging instructions: 964 <b>Cargo Aircraft Only</b> Quantity limitation: 450 L Packaging instructions: 964 <b>Limited Quantities— Passenger Aircraft</b> Quantity limitation: 30 kg Packaging instructions: Y964 <b>Special provisions</b> A97, A158

**Special precautions for user:** **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## 15. Regulatory Information

### U.S. Federal regulations

United States Toxic Substance Control Act (TSCA)

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) Inventory.

TSCA Exempt

(R&D, LVE, Polymer Exemption, Other) Not regulated

TSCA Section 4 Not regulated

TSCA Section 5 Not regulated

TSCA Section 5(a)2 Not regulated

TSCA Section 6 Not regulated

TSCA Section 12[b] Not regulated

### Superfund Amendments and Reauthorization Act (SARA)

EPCRA (SARA) Title III Section 313 Toxic Chemical Release Inventory (TRI)

Polycyclic aromatic compounds – Conc 0.1%

EPCRA (SARA) Title III Section 302 Extremely Hazardous Substances Reporting Quantities

This product does not contain any chemicals listed under Section 302.

EPCRA (SARA) Title III Section 311 Hazardous Classes	Immediate (acute) health hazard	Yes
	Delayed (chronic) health hazard	Yes

Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

#### Other Federal Regulations

Chemical Facility Anti-terrorism Standards (6 CFR 27), Appendix A, Chemicals of Interest: Not Listed

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) 40 CFR 302.4: Not Regulated.

RCRA (Resource Conservation and Recovery Act) 40 CFR Part 261: Not Listed as RCRA hazardous waste as shipped.

#### State regulations

Illinois	This material is not listed.
Louisiana	This material is not listed.
Massachusetts	Listed as 8012-95-1 (Oil Mist, Mineral).
Michigan	This material is not listed.
Minnesota	Listed as 8012-95-1 (Oil Mist, Mineral). MN cancer designation applies.
New York	This material is not listed.
New Jersey	This material is listed as Mineral Oil (untreated or mildly treated). Special health hazard substance: carcinogen if $\geq 0.1\%$
Pennsylvania	This material is listed as Mineral Oil Mist.
California Proposition 65	WARNING: This product contains a chemical known to the State of California to cause cancer. Polycyclic aromatic compounds (Cancer – maximum acceptable dosage level – No).

#### International regulations

##### International lists

Australia Inventory (AICS)	This material is listed or exempted.
Canadian Domestic Substance List (DSL)	This material is listed or exempted.
Canadian Non-domestic Substances List (NDSL)	This material is not listed.
China inventory (IECSC)	This material is listed or exempted.
European EINECS Inventory	This material is listed or exempted.
European ELINCS Inventory	This material is not listed.
Japan Existing & New Chemical Substances (ENCS)	Not determined.
Korea Existing Chemical Inventory (KECI)	This material is listed or exempted.
Korea Toxic Chemicals Control Law	This material is not listed.
Malaysia Inventory (EHS Register)	Not determined.
New Zealand Inventory of Chemicals (NZIoC)	This material is listed or exempted.
Philippines Inventory (PICCS)	This material is listed or exempted.
Taiwan inventory (CSNN)	This material is listed or exempted.
Turkey Inventory and Control of Chemicals (CICR)	Not determined. All components of this material are on the TSCA Inventory .

#### 16. Other Information

Hazard Ratings:

Key: 0 = least; 1 = slight; 2 = moderate; 3 = high; 4 = extreme

HMIS Rating: Health = 2\*; Fire = 1; Reactivity = 0 (\* Chronic health effects may result from repeated overexposure)

NFPA Rating: Health = 2; Fire = 1; Reactivity = 0

Key to abbreviations:

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

PBT = Persistent, Bioaccumulative and Toxic

UN = United Nations

vPvB = Very Persistent and very Bioaccumulative

The above information has been compiled from what we believe to be credible sources. To our knowledge the information is accurate and reliable, however, it is not guaranteed. Any recommendations issued by HB Chemical personnel or literature is derived from experience and by no means should be taken as fact or construed as a recommendation to violate of any law, regulation or patent. It is the users responsibility to determine the suitability of any HB supplied material in their application. The individual conditions of each customer are well outside of our control and we cannot be held liable for its functionality and use. Please contact our office should you need specific information beyond what is supplied above. As with all Chemical usage safety precautions beyond the stated are highly recommended.