


Tar-Cel™ 30-A

1: Identification

Product identifier:	Tar-Cel™ 30-A	
Other means of identification:	Synthetic pine tar on silicon dioxide	
Supplier:		NATROCHEM, Inc. P.O. Box 1205 Savannah, GA 31402-1205 912-236-4464
Recommended use:	Plasticizer, tackifier for rubber compounds.	
Restrictions on use:	Not applicable.	
Emergency phone number:	CHEMTREC (USA)	800-424-9300
	CHEMTREC (Int'l)	202-483-7616

2: Hazard(s) identification

GHS classification:	Skin corrosion/irritation – Category 2 Germ cell mutagenicity – Category 2 Carcinogenicity – Category 2 Specific target organ toxicity (single exposure) – Category 2 Aspiration hazard – Category 1 Hazardous to the aquatic environment, acute hazard – Category 3
----------------------------	---

GHS label elements

Signal word:

DANGER

Symbol(s):



Hazard statements:

May be fatal if swallowed and enters airways
Causes skin irritation
May cause respiratory irritation
May cause drowsiness or dizziness
Suspected of causing genetic defects
Suspected of causing cancer
Harmful to aquatic life
May form combustible dust concentrations in the air.

Hazards not otherwise classified:

Precautionary statements:

If medical advice is needed, have product container or label at hand.

Prevention:

Avoid breathing dust.
Wash hands and forearms thoroughly after handling.
Wear protective gloves/clothing/eye protection.

Response:

IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting.

IF ON SKIN (or hair): Wash with plenty of water. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

IF exposed or concerned: Get medical advice/attention.

In case of fire: Use water spray, fog, or foam to extinguish.

Storage:

Store in a closed container.

Disposal:

Store in a well ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

3: Composition

Substance/mixture: Mixture

Ingredient	Synonyms	CAS number	Concentration (%)
Tall oil pitch		8016-81-7	40-60
Fuels, diesel, #2		68476-34-6	5-10
Crude tall oil		8002-26-4	10-15
SDPA: Benzeneamine, N-phenyl-,styrenated. Mixture of styrenated diphenylamines. R53		68442-68-2	0-2
Diphenylamine		122-39-4	<0.1
Naphthalene		91-20-3	<0.1
Silica, amorphous, precipitated, and gel		112926-00-8	25-30

Contains no detectable crystalline silica (detection limit <0.01% by weight)

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

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

4: First-aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM, OR PHYSICIAN immediately; have SDS information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open.

Inhalation: Seek immediate medical attention. Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular, or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion: If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting. Do not give liquids.

Most important symptoms/effects, acute and delayed.

Potential acute health effects

Eye contact: No significant irritation expected other than possible mechanical irritation.

Inhalation: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat, and lungs.

Skin contact: Prolonged or repeated contact may dry skin and cause irritation.

Ingestion: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following:
Irritation
Redness

Inhalation: Adverse symptoms may include the following:
Coughing
Respiratory tract irritation

Skin contact: Adverse symptoms may include the following:
Dryness

Ingestion: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments: No specific treatment.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

5: Fire-fighting measures

Extinguishing media

Suitable extinguishing media:

Small fires: Any extinguisher suitable for Class B fires, dry chemical, CO₂, water spray, firefighting foam, and other gaseous agents.

Large fires: Water spray, fog, or firefighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

Unsuitable extinguishing media: None known.

Specific hazards arising from No specific fire or explosion hazard. When transferring material into

the chemical:	flammable solvents, use proper grounding to avoid electrical sparks.
Hazardous thermal decomposition products:	Carbon monoxide, carbon dioxide, non-combusted hydrocarbons (smoke).
Special protective actions for firefighters:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without proper training.
Special protective equipment for firefighters:	Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6: Accidental release measures

Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel:	No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Product forms slippery surface when combined with water. Put on appropriate personal protective equipment.
For emergency responders:	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information immediately above in "For non-emergency personnel".
Environmental precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil, or air).

Methods and materials for containment and cleaning up

Small spill:	Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
Large spill:	Move containers from spill area. Prevent entry into sewers, water courses, basements, or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact and Section 13 for waste disposal.

See **Section 1** for emergency contact information.

See **Section 8** for information on appropriate personal protective equipment.

See **Section 13** for additional waste treatment information.

7: Handling and storage

Precautions for safe handling

Protective measures:	Put on appropriate personal protective equipment (see Section 8). Keep away from heat, sparks, excessive temperatures, and open flame! No smoking or open flame in storage, use, or handling areas. Bond and ground containers during product transfer to reduce the
-----------------------------	--

Advice on general occupational hygiene:

possibility of static-initiated fire or explosion. Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored, and processed. Workers should wash hands and face before eating, drinking, and smoking. Remove contaminated clothing and protective equipment before entering eating areas. When transferring material into flammable solvents, use proper grounding to avoid electrical sparks. Avoid alteration of product properties before use. Calcining (which may result in crystalline silica formation) or mixing with additives may alter toxicological properties.

Conditions for safe storage, including any incompatibilities:

See also **Section 8** for additional information on hygiene measures. Keep away from heat, sparks, excessive temperatures, and open flame! Store in a well-ventilated area. Avoid storage near incompatible materials. Keep containers closed and clearly labeled. 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. Do not store in unlabeled containers.

Incompatibilities:

Keep away from strong oxidizers.

8: Exposure controls/personal protection

Control parameters

Occupational exposure limits

Components with limit values that require monitoring at the workplace:	
Fuels, diesel, #2 (68476-34-6)	
ACGIH:	100 mg/m ³ TWA (inhalable fraction and vapor, as total hydrocarbons, listed under Diesel fuel) Skin – potential significant contribution to overall exposure by the cutaneous route (listed under Diesel fuel)
Naphthalene (91-20-3)	
ACGIH:	10 ppm TWA 15 ppm STEL Skin –potential significant contribution to overall exposure by the cutaneous route
OSHA:	10 ppm TWA; 50 mg/m ³ TWA
NIOSH:	10 ppm TWA; 50 mg/m ³ TWA 15 ppm STEL; 75 mg/m ³ STEL
Diphenylamine (122-39-4)	
REL (USA):	Long-term value: 10 mg/m ³
TLV (USA):	Long-term value: 10 mg/m ³
EL (Canada):	Long-term value: 10 mg/m ³
EV (Canada):	Long-term value: 10 mg/m ³
Styrene (100-42-5)	
PEL (USA):	Short-term value: C 200; 600* ppm Long-term value: 100 ppm

	*5 min peak in any 3 hrs
REL (USA):	Short-term value: 425 mg/m ³ , 100 ppm Long-term value: 215 mg/m ³ , 50 ppm
TLV (USA):	Short-term value: 170 mg/m ³ , 40 ppm Long-term value: 85 mg/m ³ , 20 ppm BEI
EL (Canada):	Short-term value: 75 ppm Long-term value: 50 ppm IARC 2B
EV (Canada):	Short-term value: 100 ppm Long-term value: 35 ppm
Ethylbenzene (100-41-4)	
PEL (USA):	Long-term value: 435 mg/m ³ , 100 ppm
REL (USA):	Short-term value: 545 mg/m ³ , 125 ppm Long-term value: 435 mg/m ³ , 100 ppm
TLV (USA):	Short-term value: 543 mg/m ³ , 125 ppm Long-term value: 87 mg/m ³ , 20 ppm BEI
EL (Canada):	Long-term value: 20 ppm IARC 2B
EV (Canada):	Short-term value: 540 mg/m ³ , 125 ppm Long-term value: 435 mg/m ³ , 100 ppm

Recommended monitoring procedures:

If this product contains ingredients with exposure limits, personal, workplace atmosphere, or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required. Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Appropriate engineering controls:

Environmental exposure controls:

Emissions from ventilation or work process equipment should be checked to ensure that they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters, or engineering modifications to process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures:

Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory, and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection:

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases, or dusts. If contact is possible, the following protection should be worn, unless the

assessment indicates a higher degree of protection: splash goggles.

Skin protection

Hand protection:

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. When handling hot material, wear heat-resistant gloves that are able to withstand the temperature of molten product.

Body protection:

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection:

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection:

Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

9: Physical and chemical properties

Appearance

Physical state:	Powder, solid, or granular solid.
Color:	Tan to brown.
Odor:	Bland. Smoke.
Odor threshold:	Not available.
pH:	Not available.
Melting/freezing point:	Not available.
Boiling point and range:	Not available.
Flash point:	149°C (300°F) COC
Evaporation rate:	Not available.
Flammability:	Not available.
Flammability or explosive limits:	Not available.
Vapor pressure:	Not available.
Vapor density:	Not available.
Relative density:	1.138
Solubility:	Not available.
Partition coefficient: n-octanol/water:	Not available.
Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.
Viscosity:	Not applicable.

10: Stability and reactivity

Reactivity:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability:	This product is stable.
Possibility of hazardous reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid:	Avoid high temperatures, open flames, sparks, welding, smoking, and other ignition sources. High temperature (>800°C) treatment (calcining). Avoid alteration of product properties before use. Calcining (which may result in crystalline silica formation) or mixing with additives may alter toxicological properties. Refer to protective measures listed in Sections 7 and 8 .
Incompatible materials:	Reactive or incompatible with the following materials: acids, oxidizing materials, strong alkalis, chlorine.
Hazardous decomposition products:	Carbon dioxide, carbon monoxide, and non-combusted hydrocarbons (smoke).

11: Toxicological information

Information on toxicological effects

Acute toxicity

Ingredient	Result	Species	Dose	Exposure
Tall oil pitch	LD50 dermal	Rat	>2000 mg/kg	-
	LD50 oral	Rat	>2000 mg/kg	-
Naphthalene	LC50 inhalation	Rat	>340 mg/kg	-
	LD50 oral	Rat	490 mg/kg	-
	LD50 dermal	Rat	>2500 mg/kg	-
	LD50 dermal	Rabbit	>20 g/kg	-
Tall oil	LD50 dermal	Rat	>2000 mg/kg	-
	LD50 oral	Rat	>2000 mg/kg	-
SDPA: Benzenamine, N-phenyl-, styrenated. Mixture of styrenated diphenylamines	LD50 oral	Rat	>20 g/kg	-
	LD50 dermal	Rabbit	>10 g/kg	-

Conclusion/summary: Harmful if swallowed.

Irritation/corrosion

Ingredient	Result	Species	Score	Exposure	Observation
Tall oil	Skin – edema	Rabbit	0	-	-
	Skin – erythema/eschar	Rabbit	0	-	-
	Eyes – cornea opacity	Rabbit	0	-	-

Sensitization

Ingredient	Route of exposure	Species	Result
Tall oil pitch	Skin	Guinea pig	Not sensitizing
Tall oil	Skin	Guinea pig	Not sensitizing

Mutagenicity:

Ingredient	Test	Experiment	Result
------------	------	------------	--------

Tall oil pitch	OECD 471 Bacterial reverse mutation test OECD 476 <i>In vitro</i> mammalian cell gene mutation test OECD 473 <i>In vitro</i> mammalian chromosomal aberration test	Experiment: in vitro Subject: bacteria Experiment: in vitro Subject: mammalian - animal Experiment: in vitro Subject: mammalian - human	Negative Negative Negative
Tall oil	OECD 471 Bacterial reverse mutation test OECD 476 <i>In vitro</i> mammalian cell gene mutation test OECD 473 <i>In vitro</i> mammalian chromosomal aberration test	Experiment: in vitro Subject: bacteria Experiment: in vitro Subject: mammalian - human Experiment: in vitro Subject: mammalian - animal	Negative Negative Negative

Conclusion/summary: Components of this material have been positive in a mutagenicity study.

Carcinogenicity

Classification

Ingredient	OSHA	IARC	NTP	ACGIH
Silica, amorphous, precipitated, and gel	-	3	-	n/a
Fuels, diesel, #2	n/a	n/a	n/a	A3
Naphthalene	n/a	2B	Reasonably anticipated to be a human carcinogen	A4

Carcinogen classification code:

IARC: 1, 2A, 2B, 3, 4

NTP: [Known/Reasonably anticipated] to be a human carcinogen

OSHA: +

ACGIH: A1, A2, A3, A4, A5

Not listed/regulated: -

Not available: n/a

Conclusion/summary: Components of this material are suspected of causing cancer. Studies have shown that similar products produce skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.

Reproductive toxicity

Conclusion/summary: Not available.

Teratogenicity

Conclusion/summary: Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Target organs

Contains material which may cause damage to the following organs: upper respiratory tract, eyes.

Aspiration hazard

Conclusion/summary:

Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure, and even death.

Information on the likely routes of exposure:

Routes of entry anticipated: oral, dermal, inhalation.

Potential acute health effects

Eye contact:

Contact with eyes may cause mild irritation.

Inhalation:

Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat, and lungs. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

WARNING: The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

Skin contact:

Prolonged or repeated contact may dry skin and/or cause irritation.

Ingestion:

Ingestion may cause gastrointestinal disturbances including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

Symptoms related to the physical, chemical, and toxicological characteristics

Eye contact:

Adverse symptoms may include the following:

Irritation

Redness

Inhalation:

Adverse symptoms may include the following:

Coughing

Respiratory tract irritation

Skin contact:

Adverse symptoms may include the following:

Dryness

Ingestion:

No specific data.

Delayed and immediate effects and also chronic effects from short- and long-term exposure

Conclusion/summary:

An epidemiological study was conducted which included 165 precipitated silica workers who had been exposed an average time of 8.6 years. Of these 165 workers, 44 had been exposed for an average of 18 years. No adverse effects were noted in complete medical examinations (including chest roentgenograms) of these workers. Pulmonary function decrements were correlated only with smoking and age but not with the degree or duration of dust exposures. Laboratory studies have also been conducted in small animals via inhalation of levels of precipitated silica dust of up to 126 mg/m³ per periods from six months to two years. Although precipitated silica

was temporarily deposited in animals' lungs, most of the deposited material was cleared soon after the dust exposure ended. The results of all studies performed by, or known to, PPG indicated a very low order of pulmonary activity for synthetic precipitated silicas. PPG recommends that persons with breathing problems or lung disease should not work in dusty areas unless a physician approves and certifies their fitness to wear respiratory protection.

Short-term exposure

Potential immediate effects

No significant irritation expected other than possible mechanical irritation.

Potential delayed effects

Prolonged or repeated contact may dry skin and cause irritation.

Long-term exposure

Potential immediate effects

Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Potential delayed effects

Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Potential chronic health effects

Ingredient	Result	Species	Dose	Exposure
Tall oil pitch	Chronic NOAEL oral	Rat	>200 mg/kg	-
	Chronic NOAEL dermal	Rat	>50 mg/kg	-
Tall oil	Chronic NOAEL oral	Rat	>200 mg/kg	-
	Chronic NOAEL dermal	Rat	>50 mg/kg	-

General:

No known significant effects or critical hazards.

Carcinogenicity:

No known significant effects or critical hazards.

Mutagenicity:

No known significant effects or critical hazards.

Teratogenicity:

No known significant effects or critical hazards.

Developmental effects:

No known significant effects or critical hazards.

Fertility effects:

No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

12: Ecological information

Toxicity

Ingredient	Result	Species	Exposure
Silica, amorphous, precipitated, and gel	NOEC > 1000 ppm	Daphnia – <i>daphnia magna</i>	24 hours
	Acute NOEC > 10000 ppm fresh water	Fish	96 hours static
	Acute NOEC > 10000 ppm	Fish – <i>brachydanio rerio</i>	4 days static
Tall oil pitch	NOEC 500 mg/L	Algae	72 hours
Fuels, diesel, #2	LC50 35 mg/L flow-through	<i>Pimephales promelas</i>	96 hours
SDPA: Benzenamine, N-phenyl-, styrenated. Mixture of	EC50 920 mg/L	Fish	96 hours

styrenated diphenylamines			
Naphthalene	LC50 5.74-6.44 mg/L flow-through LC50 1.6 mg/L flow-through LC50 0.91-2.82 mg/L static LC50 1.99 mg/L static LC50 31.0265 mg/L static EC50 0.4 mg/L LC50 2.16 mg/L EC50 1.96 mg/L flow-through EC50 1.09-3.4 mg/L static	<i>Pimephales promelas</i> <i>Oncorhynchus mykiss</i> <i>Oncorhynchus mykiss</i> <i>Pimephales promelas</i> <i>Lepomis macrochirus</i> <i>Skeletonema costatum</i> <i>Daphnia magna</i> <i>Daphnia magna</i> <i>Daphnia magna</i>	96 hours 96 hours 96 hours 96 hours 96 hours 72 hours 48 hours 48 hours 48 hours

Persistence and degradability

Ingredient	Test	Result	Dose	Inoculum
Tall oil pitch	OECD 301D ready biodegradability – closed bottle test	36% - 28 days	-	-
Tall oil	OECD 301F ready biodegradability – manometric respirometry test	73.2% - 28 days	-	-

Ingredient	Aquatic half-life	Photolysis	Biodegradability
Silica, amorphous, precipitated, and gel	-	-	Not readily
Tall oil pitch	-	-	Not readily
Tall oil	-	-	Readily

Bioaccumulative potential

Ingredient	LogP _{ow}	BCF	Potential
Silica, amorphous, precipitated, and gel	-	0	low
Tall oil pitch	2.8 to 4.4	-	low
Tall oil	4.9 to 7.7	-	high

Mobility in soil

Soil/water partition coefficient (K_{oc}): Not available.

Other adverse effects: No known significant effects or critical hazards.

13: Disposal considerations

Disposal methods: 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.

Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Refer to Sections 6, 7, and 8 for additional information on accidental release measures, handling and storage, and exposure controls.

14: Transport information

	DOT	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.
Additional information	-	-	-

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.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:

Not available.

15: Regulatory information

TSCA 8b:

All components are listed or exempt.

16: Other information

Hazardous Material Identification System (USA)

HEALTH	1
FLAMMABILITY	0
REACTIVITY	0

PERSONAL PROTECTION

* - chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1901.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J.J.Keller 800-327-6868.

The customer is responsible for determining the PPE code for this material.

Key to abbreviations:

ATE	Acute toxicity estimate
BCF	Bioconcentration factor
GHS	Globally harmonized system of classification and labeling of chemicals
IATA	International Air Transport Association
IBC	Intermediate bulk container
IMDG	International Maritime Dangerous Goods
LogPow	Logarithm of the octanol/water partition coefficient
MARPOL 73/78	International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978. (MARPOL = marine pollution)
UN	United Nations

Disclaimer:

The information and recommendations contained herein are based upon data that are believed to be accurate and reliable. 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, Natrochem, Inc. makes no warranty express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon.

Application and performance information are provided only as a guide, since the conditions of use are beyond the control of Natrochem, Inc. Consequently, Natrochem makes no warranties, express or implied, with respect to the goods or use of the goods or the performance of the goods and makes no warranties of fitness for a particular purpose for merchantability. Buyer acknowledges that Natrochem will not be liable for consequential, incidental, direct or special damages arising directly or indirectly in respect to such goods or the use or failure thereof, whether based on breach of warranty, negligence, strict liability in tort or otherwise.