

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

- 1.1 Product Code:** C42, C43
Product Name: Gas Treatment
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
- 1.3 Details of the Supplier of the Safety Data Sheet:**
- | | | | |
|--------------------------|---|----------------------|---------------|
| Company Name: | CYCLO INDUSTRIES, INC.
902 SOUTH US HIGHWAY 1
JUPITER, FL 33477 | Phone Number: | (800)843-7813 |
| Web site address: | www.cyclo.com | | |
| Information: | First Aid Emergency (Outside U.S.) | | (312)906-6194 |
- 1.4 Emergency telephone number:**
- | | | | |
|---------------------------|--|--|--------------------------------|
| Emergency Contact: | First Aid Emergency
CHEMTREC (703) 527-3887 | | (800)752-7869
(800)424-9300 |
|---------------------------|--|--|--------------------------------|

Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**
- 2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:**
- Acute Toxicity: Inhalation, Category 4
 - Acute Toxicity: Oral, Category 4
 - Skin Corrosion/Irritation, Category 2
 - Serious Eye Damage/Eye Irritation, Category 2A
 - Carcinogenicity, Category 2
 - Target Organ Systemic Toxicity (single exposure), Category 3
 - Target Organ Systemic Toxicity (repeated exposure), Category 2
 - Aspiration Toxicity, Category 1
 - Aquatic Toxicity (Acute), Category 1
 - Aquatic Toxicity (Chronic), Category 1
 - Flammable Liquids, Category 3
- 2.1.2 Classification according to Directive 1999/45/EC:**
- 2.2 Label Elements:**
- 2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:**



GHS Signal Word: **Danger**

GHS Hazard Phrases:

- H226: Flammable liquid & vapor.
- H332: Harmful if inhaled.
- H302: Harmful if swallowed.
- H315: Causes skin irritation
- H316: Causes mild skin irritation.
- H319: Causes serious eye irritation.
- H335: May cause respiratory irritation.
- H373: May cause damage to organs through prolonged or repeated exposure.
- H304: May be fatal if swallowed and enters airways.
- H410: Very toxic to aquatic life with long lasting effects.

GHS Precaution Phrases:

- P202: Do not handle until all safety precautions have been read & understood.

- P210: Keep away from heat/sparks/open flames/hot surfaces - No smoking.
- P240: Ground/bond container & receiving equipment.
- P241: Use explosion-proof electrical/ventilating/lighting equipment specified by the manufacturer/supplier or the competent authority. - if dust clouds can occur.
- P242: Use only non-sparking tools.
- P243: Take precautionary measures against static discharge.
- P271: Use only outdoors or in a well-ventilated area.
- P264: Wash hands thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P260: Do not breathe dust/fume/gas/mist/vapours/spray.
- P273: Avoid release to the environment.

GHS Response Phrases:

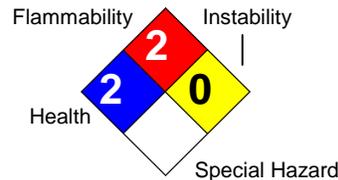
- P370+378: In case of fire, use CO₂, dry chemical or foam to extinguish.
- P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
- P363: Wash contaminated clothing before reuse.
- P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P309+311: Call a POISON CENTER or doctor/physician if exposed or you feel unwell.

GHS Storage and Disposal Phrases:

- P501: Dispose of contents/container in accordance with local/regional/national/international regulation.
- P403+233: Store container tightly closed in well-ventilated place.
- P405: Store locked up.

2.2.2 Labeling according to Directive 1999/45/EC:

Hazard Rating System:



2.3 Adverse Human Health Effects and Symptoms:

Medical Conditions Irritation from skin exposure may aggravate existing open wounds, skin disorders, and
Generally Aggravated dermatitis (rash).
By Exposure:

Section 3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
68476-30-2	Fuel oil, no. 2	>95.0 %	270-671-4 649-225-00-1	Xn; R40 Carcinogen 2: H351
91-20-3	Naphthalene	<=1.0 %	202-049-5 601-052-00-2	Xn; N; R22-40-50/53 Acute Tox.(O) 4: H302 Carcinogen 2: H351 Aquatic (A) 1: H400 Aquatic (C) 1: H410
64742-88-7	Solvent naphtha medium aliphatic	<=1.0 %	265-191-7 649-405-00-X	Xn; R65 Asp. Toxic. 1: H304

104-76-7	1-Hexanol, 2-Ethyl-	<=1.0 %	203-234-3 NA	Xn; R21/22-37/38-41 Skin Corr. 2: H315 Eye Damage 2A: H319 Acute Tox.(I) 4: H332 TOST (SE) 3: H335 H336
25551-13-7	Benzene, Trimethyl-	<=1.0 %	247-099-9 NA	No phrases apply. Skin Corr. 2: H315 Eye Damage 2B: H320 TOST (SE) 3: H335 H336 TOST (RE) 2: H373 Asp. Toxic. 1: H304 Aquatic (A) 2: H401 Aquatic (C) 2: H411
NA	Polymer/amine	< 1.0 %	NA NA	No data available. No data available.
67-63-0	Isopropyl alcohol	< 1.0 %	200-661-7 603-117-00-0	F; Xi; R11-36-67 Flam. Liq. 2: H225 Eye Damage 2A: H319 TOST (SE) 3: H335 H336

Section 4. First Aid Measures

- 4.1 Description of First Aid Measures:** If swallowed, do not induce vomiting. Aspiration of material due to vomiting can cause chemical pneumonia which can be fatal. If conscious, give two glasses of water and get immediate medical attention to perform gastric lavage. If vomiting occurs naturally, the casualty should lean forward to reduce the risk of aspiration. If inhaled, remove exposed person to fresh air if adverse effects are observed. If breathing has stopped, apply artificial respiration. If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of skin contact, immediately wash in flowing water for 15 minutes. Immediately remove contaminated clothing. Launder contaminated clothing before reuse and discard shoes and other leather articles saturated with the material. Call physician immediately if adverse reaction occurs.
- 4.2 Important Symptoms and Effects, Both Acute and Delayed:**
 Eyes: Mild irritation
 Ingestion: nausea, vomiting, diarrhea and restlessness.
 Skin: Irritation and dermatitis.
 Inhalation: Headache, giddiness, vertigo and anesthetic stupor.

Section 5. Fire Fighting Measures

- 5.1 Suitable Extinguishing Media:** For small fires, use Class B extinguishing material like CO₂, dry chemical or foam. Water spray can be used to cool and protect exposed material. For large fires, water spray, foam, fog can be used.
- 5.2 Flammable Properties and Hazards:** Toxic fumes, gases or vapors may evolve on burning. Vapors may be heavier than air and may travel along the ground to a distant ignition source and flash back. Container may rupture on heating. Material does not have explosive properties. This product is considered to be a combustible liquid per the OSHA Hazard Communication Standard and should be kept away from heat, flame and sources of ignition. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 128.
- Flash Pt:** 46.00 C (114.8 F) Method Used: Pensky-Marten Closed Cup
- Explosive Limits:** LEL: .7 UEL: 10
- Autoignition Pt:** >= 260.00 C (500.0 F)
- 5.3 Fire Fighting:** Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied

Instructions: carefully to avoid frothing and from as far a distance as possible. Recommended wearing self-contained breathing apparatus. Water may cause splattering. Material will float on water. Keep run-off water out of sewers and water sources.

Section 6. Accidental Release Measures

6.3 Methods and Material For Containment and Cleaning Up: Keep public away. Isolate and evacuate the area. Shut off source is safe to do so. Eliminate all ignition sources. Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations. Ventilate spill area. Prevent entry into sewers and waterways. If substance has entered waterway, advise authorities. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material like sand or soil. Check under Transportation and Labeling (DOT / CERCLA) and Other Regulatory Information Section (SARA) for hazardous substances to determine regulatory reporting requirements for spills.

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling: Do not handle until all safety precautions have been read & understood. Keep away from heat/sparks/open flames/hot surfaces - No smoking. Ground/bond container & receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment specified by the manufacturer/supplier or the competent authority. - if dust clouds can occur. Use only non-sparking tools. Take precautionary measures against static discharge. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid release to the environment. Keep out of the reach of children.

7.2 Precautions To Be Taken in Storing: Store container tightly closed in well-ventilated place. Store locked up.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
68476-30-2	Fuel oil, no. 2	No data.	No data.	No data.
91-20-3	Naphthalene	No data.	TWA: 50 mg/m3 (10 ppm)	TWA: 50 mg/m3
64742-88-7	Solvent naphtha medium aliphatic	No data.	No data.	No data.
104-76-7	1-Hexanol, 2-Ethyl-	No data.	No data.	No data.
25551-13-7	Benzene, Trimethyl-	TWA: 125 mg/m3 (25 ppm) STEL: ()	No data.	No data.
NA	Polymer/amine	No data.	No data.	No data.
67-63-0	Isopropyl alcohol	TWA: 999 mg/m3 (400 ppm) STEL: 1250 mg/m3 (500 ppm)	STEL: 980 mg/m3 (400 ppm)	No data.

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
68476-30-2	Fuel oil, no. 2	No data.	TLV: 100 mg/m3	No data.
91-20-3	Naphthalene	PEL: 10 ppm	TLV: 10 ppm STEL: 15 ppm	No data.
64742-88-7	Solvent naphtha medium aliphatic	No data.	No data.	No data.
104-76-7	1-Hexanol, 2-Ethyl-	No data.	No data.	No data.
25551-13-7	Benzene, Trimethyl-	No data.	TLV: 25 ppm	No data.
NA	Polymer/amine	No data.	No data.	No data.
67-63-0	Isopropyl alcohol	PEL: 400 ppm	TLV: 200 ppm STEL: 400 ppm	No data.

8.2 Exposure Controls:

8.2.1 Engineering Controls (Ventilation etc.): No data available.

8.2.2 Personal protection equipment:

Eye Protection: Safety glasses or goggles.

Protective Gloves: Butyl rubber. Neoprene.

Other Protective Clothing: Long sleeve shirt is recommended. Wear either a chemical protective suit or apron when potential for contact with material exists. Use neoprene or nitrile rubber boots when necessary to avoid contaminating shoes. Do not wear rings, watches or similar apparel that could entrap the material and cause a burn.

Respiratory Equipment (Specify Type): Use NIOSH/MSHA approved full face respirator with an organic vapor cartridge if the recommended exposure limit is exceeded. Use self-contained breathing apparatus for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States: [] Gas [X] Liquid [] Solid

Appearance and Odor: Clear liquid with mild petroleum odor.

Melting Point: No data.

Boiling Point: > 360.00 F (182.2 C) - 550.00 F (287.8 C)

Flash Pt: 46.00 C (114.8 F) Method Used: Pensky-Marten Closed Cup

Evaporation Rate: No data.

Explosive Limits: LEL: .7 UEL: 10

Vapor Pressure (vs. Air or mm Hg): 1 - 10 MM_HG at 100.0 F (37.8 C)

Vapor Density (vs. Air = 1): 4 - 5

Specific Gravity (Water = 1): .81 - .85

Density: 6.87 - 7.06 LB/GA

Solubility in Water: No data.

Autoignition Pt: >= 260.00 C (500.0 F)

Viscosity: water thin

9.2 Other Information

Percent Volatile: 10.0 % by weight.

Section 10. Stability and Reactivity

10.1 Reactivity: No data available.

10.2 Stability: Unstable [] Stable [X]

10.3 Conditions To Avoid - Hazardous Reactions: No data available.

Possibility of Hazardous Reactions: Will occur [] Will not occur [X]

10.4 Conditions To Avoid - Instability: This material is stable at 22 C, 760 mm pressure.

10.5 Incompatibility - Materials To Avoid: Acids, oxidizing agents, halogens and halogenated compounds.

10.6 Hazardous Decomposition Or Byproducts: Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Under combustion conditions, oxides of the following elements will be formed: nitrogen.

Section 11. Toxicological Information

11.1 Information on Toxicological Effects:

Oral Toxicity: The LD50 in rats is between 2000 mg/kg and 5000 mg/kg. Based on data from components or similar materials. Swallowing this material causes severe irritation and may cause burns of the mouth, esophagus and stomach, abdominal pain, nausea, vomiting and diarrhea. Ingestion may cause CNS depression.

Eye Irritation: Corrosive to eyes. Based on data from components or similar materials.

Skin Irritation: Corrosive to the skin. Based on data from components or similar material. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin.

Dermal Toxicity: The following estimated LD 50 is based on incomplete data on components. The LD50 in rabbits is > 2000 mg/Kg. Based on data from components or similar materials. Prolonged or widespread contact with this material could result in the absorption of potentially harmful amounts.

Inhalation Toxicity: High concentrations may cause headaches, dizziness, nausea, stupor, and other central nervous system effects leading to visual impairment, difficulty breathing and convulsions.

Respiratory Irritation: If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract. Based on data from components and similar materials. Exposure to a high concentration of vapor or mist is irritating to the respiratory tract. Breathing of vapor or mist may aggravate asthma and inflammatory or fibrotic pulmonary disease.

Dermal Sensitization: No data available to indicate product or components may be respiratory sensitizes.

CAS# 68476-30-2:

Other Studies:, TDLo, Skin, Species: Rabbit, 100.0 ML/KG, 12 D.

Results:

Skin and Appendages: Skin: After systemic exposure: Dermatitis, irritative.

Nutritional and Gross Metabolic: Weight loss or decreased weight gain.

Related to Chronic Data - death.

- "Toxicology of Petroleum Hydrocarbons, Proceedings of the Symposium, 1st, 1982," MacFarland, H.N., et al., eds., Washington, DC, American Petroleum Institute, 1983 Volume, Vol/p/yr: 1,1, 1983

Acute toxicity, LD50, Oral, Rat, 12.00 GM/KG.

Results:

Behavioral: Somnolence (general depressed activity).

- Advances in Modern Environmental Toxicology., Senate Press, Inc., P.O. Box 252, Princeton Junction, NJ 08550, Vol/p/yr: 6,1, 1984

Acute toxicity, LD (Lethal dose), Skin, Species: Rabbit, 5.000 GM/KG.

Results:

Behavioral: Tremor.

Behavioral: Convulsions or effect on seizure threshold.

- Advances in Modern Environmental Toxicology., Senate Press, Inc., P.O. Box 252, Princeton Junction, NJ 08550, Vol/p/yr: 6,1, 1984



SAFETY DATA SHEET

Gas Treatment

Page: 7

Revision: 10/16/2014

Supersedes Revision: 06/27/2013

Tumorigenic Effects: TDLo, Skin, Mouse, 243.0 GM/KG, 97 W.

Results:

Tumorigenic: Carcinogenic by RTECS criteria.

Skin and Appendages: Other: Tumors.

- Fundamental and Applied Toxicology., Academic Press, Inc., 1 E. First St., Duluth, MN 55802, Vol/p/yr: 9,297, 1987

Standard Draize Test, Skin, Species: Rabbit, 500.0 MG, 24 H, Moderate.

Results:

Brain and Coverings: Changes in surface EEG.

- "Toxicology of Petroleum Hydrocarbons, Proceedings of the Symposium, 1st, 1982," MacFarland, H.N., et al., eds., Washington, DC, American Petroleum Institute, 1983 Volume, Vol/p/yr: 1,1, 1983

Standard Draize Test, Eyes, Species: Rabbit, 100.0 MG, 30 S, Mild.

Results:

Behavioral: Somnolence (general depressed activity).

- "Toxicology of Petroleum Hydrocarbons, Proceedings of the Symposium, 1st, 1982," MacFarland, H.N., et al., eds., Washington, DC, American Petroleum Institute, 1983 Volume, Vol/p/yr: 1,1, 1983

Chronic Toxicological Effects:

Chronic Toxicity: Repeated overexposure to petroleum naphtha can cause nervous system damage. A 14-day dermal toxicity study of 2-ethyhexanol in rats showed blood effects, decreased spleen weight and decreased triglycerides. Repeated overexposure to naphthalene may cause destruction of red blood cells with anemia, fever, jaundice and kidney and liver damage. Repeated ingestion of 2-ethyhexanol may cause injury to the liver and kidneys.

Carcinogenicity: A two-year National Toxicology Program (NTP) study found an increased incidence of tumors of the nose in rats exposed to naphthalene by inhalation. In mice similarly exposed, increased incidence of alveolar / bronchiolar adenomas were observed. Naphthalene has been classified by the International Agency for Research on Cancer (IARC) as a possible human carcinogen (Group 2B) on the basis of sufficient evidence of carcinogenicity in experimental animals but inadequate evidence in exposed humans. This product is formulated with mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive Toxicity: No data available to indicate either product or components present at great than .1% that may cause reproductive toxicity.

Tertaogenicity: No evidence of adverse effects were found in a developmental toxicity study of 2-ethyhexanol in rats. Doses up to 3 ml/kg applied to the skin during the most critical part of the gestation period produced evidence of toxicity to mothers, but no evidence of injury in the developing offspring. In a previous study, birth defects were observed by oral administration, an unlikely route of exposure in the workplace.

Exposure Limits: Contains mineral oil. Under conditions which may generate mists, observe the OSHA PEL of 5 mg per cubic meter, ACGIH STEL of 10 mg per cubic meter.



CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
68476-30-2	Fuel oil, no. 2	n.a.	2B	A3	n.a.
91-20-3	Naphthalene	Possible	2B	A4	n.a.
64742-88-7	Solvent naphtha medium aliphatic	n.a.	n.a.	n.a.	n.a.
104-76-7	1-Hexanol, 2-Ethyl-	n.a.	n.a.	n.a.	n.a.
25551-13-7	Benzene, Trimethyl-	n.a.	n.a.	n.a.	n.a.
NA	Polymer/amine	n.a.	n.a.	n.a.	n.a.
67-63-0	Isopropyl alcohol	n.a.	3	A4	n.a.

Section 12. Ecological Information

12.1 Toxicity:

Product can cause fouling of shoreline and may be harmful to aquatic life in low concentrations. The 96 hour LC50 values for an accommodated fraction (WAF) of fuel oil ranged from 3.2 to 65 mg/l in fish and 2-210 mg/l in invertebrates, EC 50 values for inhibition of algae growth ranged from 1.8 to 2.9 mg/l for No. 2 fuel oil (the major component of this product) and from 10 to 78 mg/l for diesel fuel. This product does not concentrate or accumulate in the food chain. If released to soil and water, this product is expected to biodegrade under both aerobic and anaerobic conditions.

CAS# 67-63-0:

LC50, Fathead Minnow (*Pimephales promelas*), juvenile(s), 11830000. UG/L, 1 H, Mortality, Water temperature: 18.00 C (64.4 F) - 22.00 C (71.6 F) C.

Results:

No observed effect.

- Acute Toxicity of Selected Organic Compounds to Fathead Minnows, Mattson, V.R., J.W. Arthur, and C.T. Walbridge, 1976

LC50, Fathead Minnow (*Pimephales promelas*), juvenile(s), 11160000. UG/L, 24 H, Mortality, Water temperature: 18.00 C (64.4 F) - 22.00 C (71.6 F) C.

Results:

No observed effect.

- Acute Toxicity of Selected Organic Compounds to Fathead Minnows, Mattson, V.R., J.W. Arthur, and C.T. Walbridge, 1976

LC50, Fathead Minnow (*Pimephales promelas*), juvenile(s), 11130000. UG/L, 48 H, Mortality, Water temperature: 18.00 C (64.4 F) - 22.00 C (71.6 F) C.

Results:

Age Effects.

- Acute Toxicity of Selected Organic Compounds to Fathead Minnows, Mattson, V.R., J.W. Arthur, and C.T. Walbridge, 1976

LC50, Fathead Minnow (*Pimephales promelas*), juvenile(s), 11130000. UG/L, 72 H, Mortality, Water temperature: 18.00 C (64.4 F) - 22.00 C (71.6 F) C.

Results:

Age Effects.

- Acute Toxicity of Selected Organic Compounds to Fathead Minnows, Mattson, V.R., J.W. Arthur, and C.T. Walbridge, 1976

LC50, Fathead Minnow (*Pimephales promelas*), juvenile(s), 11130000. UG/L, 96 H, Mortality, Water temperature: 18.00 C (64.4 F) - 22.00 C (71.6 F) C.

Results:

Age Effects.

- Acute Toxicity of Selected Organic Compounds to Fathead Minnows, Mattson, V.R., J.W. Arthur, and C.T. Walbridge, 1976

LC50, Fathead Minnow (*Pimephales promelas*), 10400000. UG/L, 96 H, Mortality, Water temperature: 24.60 C (76.3 F) C, pH: 7.10, Hardness: 52.50 MG/L.

Results:

Affected fish lost equilibrium prior to death.

- Acute Toxicities of Organic Chemicals to Fathead Minnows (*Pimephales promelas*), Vol. 1, Brooke, L.T., D.J. Call, D.L. Geiger, and C.E. Northcott, 1984

LC50, Fathead Minnow (*Pimephales promelas*), 6550000. UG/L, 96 H, Mortality, Water temperature: 24.60 C (76.3 F) C, pH: 7.90, Hardness: 44.00 MG/L.

Results:

Affected fish lost equilibrium prior to death.

- Acute Toxicities of Organic Chemicals to Fathead Minnows (*Pimephales promelas*), Vol. 1, Brooke, L.T., D.J. Call, D.L. Geiger, and C.E. Northcott, 1984

LC50, Fathead Minnow (*Pimephales promelas*), 9640000. UG/L, 96 H, Mortality, Water temperature: 24.40 C (75.9 F) C, pH: 7.80, Hardness: 48.30 MG/L.

Results:

Affected fish lost equilibrium prior to death.

- Acute Toxicities of Organic Chemicals to Fathead Minnows (*Pimephales promelas*), Vol. 1, Brooke, L.T., D.J. Call, D.L. Geiger, and C.E. Northcott, 1984

LC50, Fathead Minnow (*Pimephales promelas*), 10600000. UG/L, 24 H, Mortality, Water temperature: 24.00 C (75.2 F) - 25.30 C (77.5 F) C, pH: 7.20, Hardness: 52.70 MG/L.

Results:

No observed effect.

- Estimates of "No Effect" Concentrations of Selected Pesticides in Freshwater Organisms, Call, D.J., L.T. Brooke, and N. Ahmad, 1981

LC50, Fathead Minnow (*Pimephales promelas*), 10400000. UG/L, 48 H, Mortality, Water temperature: 24.00 C (75.2 F) - 25.30 C (77.5 F) C, pH: 7.20, Hardness: 52.70 MG/L.

Results:

No observed effect.

- Estimates of "No Effect" Concentrations of Selected Pesticides in Freshwater Organisms, Call, D.J., L.T. Brooke, and N. Ahmad, 1981

Effective concentration to 50% of test organisms., Fathead Minnow (*Pimephales promelas*), 9380000. UG/L, 24 H, Behavior, Water temperature: 24.00 C (75.2 F) - 25.30 C (77.5 F) C, pH: 7.20, Hardness: 52.70 MG/L.

Results:

No observed effect.

- Estimates of "No Effect" Concentrations of Selected Pesticides in Freshwater Organisms, Call, D.J., L.T. Brooke, and N. Ahmad, 1981

Effective concentration to 50% of test organisms., Fathead Minnow (*Pimephales promelas*), 10000000. UG/L, 48 H, Behavior, Water temperature: 24.00 C (75.2 F) - 25.30 C (77.5 F) C, pH: 7.20, Hardness: 52.70 MG/L.

Results:

No observed effect.

- Estimates of "No Effect" Concentrations of Selected Pesticides in Freshwater Organisms, Call, D.J., L.T. Brooke, and N. Ahmad, 1981



SAFETY DATA SHEET

Gas Treatment

LC50, Bluegill (*Lepomis macrochirus*), 1400000. UG/L, 24 H, Mortality, Water temperature: 22.00 C (71.6 F) C.

Results:

No observed effect.

- Toxicity of CS-2 Decontamination Products, Wolverton, B.C., D.D. Harrison, and R.C. Voight, 1970

LC50, Bluegill (*Lepomis macrochirus*), 1400000. UG/L, 48 H, Mortality, Water temperature: 22.00 C (71.6 F) C.

Results:

No observed effect.

- Toxicity of CS-2 Decontamination Products, Wolverton, B.C., D.D. Harrison, and R.C. Voight, 1970

LC50, Bluegill (*Lepomis macrochirus*), 1400000. UG/L, 72 H, Mortality, Water temperature: 22.00 C (71.6 F) C.

Results:

No observed effect.

- Toxicity of CS-2 Decontamination Products, Wolverton, B.C., D.D. Harrison, and R.C. Voight, 1970

LC50, Bluegill (*Lepomis macrochirus*), 1400000. UG/L, 96 H, Mortality, Water temperature: 22.00 C (71.6 F) C.

Results:

No observed effect.

- Toxicity of CS-2 Decontamination Products, Wolverton, B.C., D.D. Harrison, and R.C. Voight, 1970

Lethal concentration to 0% of test organisms., Bluegill (*Lepomis macrochirus*), fingerling, 10000000. UG/L, 96 H, Mortality, Water temperature: 19.50 C (67.1 F) - 20.50 C (68.9 F) C.

Results:

No observed effect.

- Behavior of Organic Chemicals in the Aquatic Environment. Part II. - Behavior in Dilute Systems, Buzzell, J.C., Jr., R.H.F. Young, and D.W. Ryckman, 1968

Not reported., Rainbow Trout (*Oncorhynchus mykiss*), 4800000. UG/L, 2 - 24 H, Accumulation.

Results:

No observed effect.

- Estimates of "No Effect" Concentrations of Selected Pesticides in Freshwater Organisms, Call, D.J., L.T. Brooke, and N. Ahmad, 1981

Effective concentration to 50% of test organisms., Water Flea (*Daphnia magna*), 159000. UMOL/L, 24 H, Intoxication,.

Results:

No observed effect.

- Comparative Acute Toxicity of the First 50 Multicentre Evaluation of In Vitro Cytotoxicity Chemicals to Aquatic Non-vertebrates, Calleja, M.C., G. Persoone, and P. Geladi, 1994

Effective concentration to 50% of test organisms., Water Flea (*Daphnia magna*), neonate, 114.0 MMOL/L, 24 H, Intoxication,, Water temperature: 21.00 C (69.8 F) C, pH:

7.60.

Results:

No observed effect.

- A Comparison of the Toxicity of 50 Reference Chemicals to Freshly Isolated Rainbow Trout Hepatocytes and Daphnia magna, Lilius, H., B. Isomaa, and T. Holmstrom, 1994

LC50, Water Flea (Daphnia magna), 10000. MG/L, 24 H, Intoxication,, Water temperature: 20.00 C (68.0 F) - 22.00 C (71.6 F) C, pH: 7.70, Hardness: 16.00 dH.

Results:

No observed effect.

- Results of the Damaging Effect of Water Pollutants on Daphnia magna (Befunde der Schadwirkung Wassergefahrdender Stoffe Gegen Daphnia magna), Bringmann, G., and R. Kuhn, 1977

Lethal concentration to 0% of test organisms., Water Flea (Daphnia magna), 5000. MG/L, 24 H, Intoxication,, Water temperature: 20.00 C (68.0 F) - 22.00 C (71.6 F) C, pH: 7.70, Hardness: 16.00 dH.

Results:

No observed effect.

- Results of the Damaging Effect of Water Pollutants on Daphnia magna (Befunde der Schadwirkung Wassergefahrdender Stoffe Gegen Daphnia magna), Bringmann, G., and R. Kuhn, 1977

Effective concentration to 0% of test organisms., Water Flea (Daphnia magna), 5102. MG/L, 24 H, Behavior, pH: =8.00.

Results:

No observed effect.

- Results of Toxic Action of Water Pollutants on Daphnia magna Straus Tested by an Improved Standardized Procedure, Bringmann, G., and R. Kuehn, 1982

Effective concentration to 50% of test organisms., Water Flea (Daphnia magna), 9714. MG/L, 24 H, Behavior, pH: =8.00.

Results:

No observed effect.

- Results of Toxic Action of Water Pollutants on Daphnia magna Straus Tested by an Improved Standardized Procedure, Bringmann, G., and R. Kuehn, 1982

Effective concentration to 100% of test organisms., Water Flea (Daphnia magna), 10000. MG/L, 24 H, Behavior, pH: =8.00.

Results:

No observed effect.

- Results of Toxic Action of Water Pollutants on Daphnia magna Straus Tested by an Improved Standardized Procedure, Bringmann, G., and R. Kuehn, 1982

Effective concentration to 50% of test organisms., Water Flea (Daphnia pulex), 174.27 MMOL/L, 24 H, Intoxication,, Water temperature: 20.00 C (68.0 F) C, pH: 7.60.

Results:

No observed effect.

- A Comparison of the Toxicity of 30 Reference Chemicals to Daphnia magna and Daphnia pulex, Lilius, H., T. Hastbacka, and B. Isomaa, 1995

LC50, Common Shrimp, Sand Shrimp (Crangon crangon), 1400000. UG/L, 48 H, Mortality.



SAFETY DATA SHEET

Gas Treatment

Results:

No observed effect.

- Toxicity of Oil-Sinking Agents, Blackman, R.A.A., 1974

LC50, Common Shrimp, Sand Shrimp (*Crangon crangon*), 1150000. UG/L, 96 H, Mortality.

Results:

No observed effect.

- Toxicity of Oil-Sinking Agents, Blackman, R.A.A., 1974

LC50, Harlequinfish, Red Rasbora (*Rasbora heteromorpha*), 7100000. UG/L, 24 H, Mortality, Water temperature: 20.00 C (68.0 F) C, pH: 8.10, Hardness: 20.00 MG/L.

Results:

Affected fish swam at or near surface.

Affected fish lost equilibrium prior to death.

- Acute Toxicity of 102 Pesticides and Miscellaneous Substances to Fish, Tooby, T.E., P.A. Hursey, and J.S. Alabaster, 1975

LC50, Harlequinfish, Red Rasbora (*Rasbora heteromorpha*), 4900000. UG/L, 48 H, Mortality, Water temperature: 20.00 C (68.0 F) C, pH: 8.10, Hardness: 20.00 MG/L.

Results:

Affected fish lost equilibrium prior to death.

- Acute Toxicity of 102 Pesticides and Miscellaneous Substances to Fish, Tooby, T.E., P.A. Hursey, and J.S. Alabaster, 1975

LC50, Harlequinfish, Red Rasbora (*Rasbora heteromorpha*), 4200000. UG/L, 96 H, Mortality, Water temperature: 20.00 C (68.0 F) C, pH: 8.10, Hardness: 20.00 MG/L.

Results:

Affected fish stopped schooling behavior.

Affected fish became hyperactive.

No loss of equilibrium observed.

- Acute Toxicity of 102 Pesticides and Miscellaneous Substances to Fish, Tooby, T.E., P.A. Hursey, and J.S. Alabaster, 1975

LC50, Western Mosquitofish (*Gambusia affinis*), 1400000. UG/L, 24 H, Mortality, Water temperature: 22.00 C (71.6 F) C.

Results:

No observed effect.

- Toxicity of CS-2 Decontamination Products, Wolverton, B.C., D.D. Harrison, and R.C. Voight, 1970

LC50, Western Mosquitofish (*Gambusia affinis*), 1400000. UG/L, 48 H, Mortality, Water temperature: 22.00 C (71.6 F) C.

Results:

No observed effect.

- Toxicity of CS-2 Decontamination Products, Wolverton, B.C., D.D. Harrison, and R.C. Voight, 1970

LC50, Western Mosquitofish (*Gambusia affinis*), 1400000. UG/L, 72 H, Mortality, Water temperature: 22.00 C (71.6 F) C.

Results:

No observed effect.

- Toxicity of CS-2 Decontamination Products, Wolverton, B.C., D.D. Harrison, and R.C.



SAFETY DATA SHEET

Gas Treatment

Page: 13

Revision: 10/16/2014
Supersedes Revision: 06/27/2013

Voight, 1970

LC50, Western Mosquitofish (*Gambusia affinis*), 1400000. UG/L, 96 H, Mortality, Water temperature: 22.00 C (71.6 F) C.

Results:

No observed effect.

- Toxicity of CS-2 Decontamination Products, Wolverton, B.C., D.D. Harrison, and R.C.

Voight, 1970

Lethal concentration to 0% of test organisms., Creek Chub (*Semotilus atromaculatus*), 900000. UG/L, 24 H, Mortality, Water temperature: 15.00 C (59.0 F) - 21.00 C (69.8 F) C, pH: 8.30, Hardness: 98.00 MG/L.

Results:

No observed effect.

- Appraisal of a Chemical Waste Problem by Fish Toxicity Tests, Gillette, L.A., D.L. Miller, and H.E. Redman, 1952

Lethal concentration to 100% of test organisms., Creek Chub (*Semotilus atromaculatus*), 1100000. UG/L, 24 H, Mortality, Water temperature: 15.00 C (59.0 F) - 21.00 C (69.8 F) C, pH: 8.30, Hardness: 98.00 MG/L.

Results:

No observed effect.

- Appraisal of a Chemical Waste Problem by Fish Toxicity Tests, Gillette, L.A., D.L. Miller, and H.E. Redman, 1952

LC50, Goldfish (*Carassius auratus*), 5000000. UG/L, 24 H, Mortality, Water temperature: 20.00 C (68.0 F) C, pH: 7.00.

Results:

No observed effect.

- The Acute Toxicity of Some Petrochemicals to Goldfish, Bridie, A.L., C.J.M. Wolff, and M. Winter, 1979

LC50, Yellow Fever Mosquito (*Aedes aegypti*), larva(e), 3.200 % V/V, 4 H, Mortality, Water temperature: 22.00 C (71.6 F) - 24.00 C (75.2 F) C.

Results:

Age Effects.

- Relative Toxicity of Organic Solvents to *Aedes aegypti* Larvae, Kramer, V.C., D.J. Schnell, and K.W. Nickerson, 1983

Not reported., Cryptomonad (*Chilomonas paramecium*), 104000. UG/L, 48 H, Population, Water temperature: 20.00 C (68.0 F) C, pH: 6.90.

Results:

No observed effect.

- Determination of the Biological Effect From Water Pollutants to Protozoa. III. Saprozoic Flagellates (Bestimmung der Biologischen Schadwirkung Wassergefahrdender Stoffe Gegen Protozoen III. Saprozoische Flagellaten), Bringmann, G., R. Kuhn, and A. Winter, 1980

Not reported., Cryptomonad (*Chilomonas paramecium*), 104000. UG/L, Population.

Results:

Affected fish stopped schooling behavior.

Affected fish became hyperactive.

No loss of equilibrium observed.

- Comparison of the Effect of Toxic Substances on the Flagellate Organisms Such as Ciliates and the Holozoic Bacteria-Devouring Organisms Such as Saprozoic Protozoans (Vergleich der Wirkung von Schadstoffen auf Flagellate, Bringmann, G., and R. Kuhn, 1981)

Not reported., Green Algae (*Chlorella* sp.), 79000. UG/L, 11 - 20 D, Population.

Results:

No observed effect.

- Naturally Occurring Organic Compounds and Algal Growth in a Eutrophic Lake, Adams, V.D., R.R. Renk, P.A. Cowan, and D.B. Porcella, 1975

Not reported., Green Algae (*Chlamydomonas reinhardtii*), 79000. UG/L, 11 - 17 D, Population.

Results:

No observed effect.

- Naturally Occurring Organic Compounds and Algal Growth in a Eutrophic Lake, Adams, V.D., R.R. Renk, P.A. Cowan, and D.B. Porcella, 1975

LC50, Rotifer (*Brachionus plicatilis*), Post-hatch, 519000. UMOL/L, 24 H, Mortality, Water temperature: 25.00 C (77.0 F) C.

Results:

Affected fish lost equilibrium prior to death.

- Cyst-Based Toxicity Tests. IV. The Potential of Ecotoxicological Tests for the Prediction of Acute Toxicity in Man as Evaluated on the First Ten Chemicals of the MEIC Programme, Calleja, M.C., and G. Persoone, 1992

LC50, Brine Shrimp (*Artemia salina*), nauplii, 10000000. UG/L, 24 H, Mortality, Water temperature: 24.00 C (75.2 F) C.

Results:

No observed effect.

- Brine Shrimp Bioassay and Seawater BOD of Petrochemicals, Price, K.S., G.T. Waggy, and R.A. Conway, 1974

LC50, Brine Shrimp (*Artemia salina*), 278000. UMOL/L, 24 H, Mortality.

Results:

No observed effect.

- Comparative Acute Toxicity of the First 50 Multicentre Evaluation of In Vitro Cytotoxicity Chemicals to Aquatic Non-vertebrates, Calleja, M.C., G. Persoone, and P. Geladi, 1994

LC50, Brine Shrimp (*Artemia salina*), larva(e), 278000. UMOL/L, 24 H, Mortality.

Results:

Affected fish lost equilibrium prior to death.

- Cyst-Based Toxicity Tests. IV. The Potential of Ecotoxicological Tests for the Prediction of Acute Toxicity in Man as Evaluated on the First Ten Chemicals of the MEIC Programme, Calleja, M.C., and G. Persoone, 1992

Not reported., Algae (Algae), 79000. UG/L, 11 - 14 D, Population.

Results:

No observed effect.

- Naturally Occurring Organic Compounds and Algal Growth in a Eutrophic Lake, Adams, V.D., R.R. Renk, P.A. Cowan, and D.B. Porcella, 1975

Inhibition concentration to 50% of test organisms, Ciliate (*Tetrahymena pyriformis*), 97.06

MMOL/L, 2 D, Population.

Results:

No observed effect.

- Structure-Toxicity Relationships for Unsaturated Alcohols to Tetrahymena pyriformis: C5 and C6 Analogs and Primary Propargylic Alcohols, Schultz, T.W., and M. Tichy, 1993

Not reported., Ciliate (Tetrahymena pyriformis), 1.000 M, 1 M, Intoxication,.

Results:

Age Effects.

- Computerized In Vitro Test for Chemical Toxicity Based on Tetrahymena Swimming Patterns, Noever, D.A., H.C. Matsos, R.J. Cronise, L.L. Looger, R.A. Relwani, and J.U. Johnson, 1994

Not reported., Green Algae (Scenedesmus quadricauda), 1800000. UG/L, Population, Water temperature: 27.00 C (80.6 F) C, pH: 7.00.

Results:

No observed effect.

- Limiting Values for the Damaging Action of Water Pollutants to Bacteria (Pseudomonas putida) and Green Algae (Scenedesmus quadricauda) in the Cell Multiplication Inhibition Test, Bringmann, G., and R. Kuhn, 1977

Not reported., Green Algae (Scenedesmus quadricauda), 1800000. UG/L, 7 D, Population, Water temperature: 27.00 C (80.6 F) C.

Results:

Affected fish swam at or near surface.

Affected fish lost equilibrium prior to death.

- Comparison of the Toxicity Thresholds of Water Pollutants to Bacteria, Algae, and Protozoa in the Cell Multiplication Inhibition Test, Bringmann, G., and R. Kuhn, 1980

Not reported., Green Algae (Scenedesmus quadricauda), 1800000. UG/L, 8 D, Population, Water temperature: 27.00 C (80.6 F) C.

Results:

Affected fish stopped schooling behavior.

Affected fish swam at or near surface.

- Testing of Substances for Their Toxicity Threshold: Model Organisms Microcystis (Diplocystis) aeruginosa and Scenedesmus quadricauda, Bringmann, G., and R. Kuhn, 1978

Not reported., Green Algae (Scenedesmus quadricauda), 1800000. UG/L, Population.

Results:

No observed effect.

- Comparison of Toxic Limiting Concentrations of Water Contaminants Toward Bacteria, Algae and Protozoa in the Cell-Growth Inhibition Test (Vergleich der Toxischen Grenzkonzentrationen Wassergefahrdender Stoffe Gegen Bakte, Bringmann, G., and R. Kuhn, 1979

Effective concentration to {0} % of test organisms, Green Algae (Scenedesmus quadricauda), 1800000. UG/L, Population.

Results:

No observed effect.

- Limiting Values for the Noxious Effects of Water Pollutant Material to Blue Algae (Microcystis aeruginosa) and Green Algae (Scenedesmus quadricauda) in Cell Propagation Inhibition Tests (Grenzwerte der Schadwirkung Wasse, Bringmann, G., and

R. Kuhn, 1978

LC50, Fairy Shrimp (*Streptocephalus proboscideus*), 193000. UMOL/L, 24 H, Mortality.

Results:

No observed effect.

- Comparative Acute Toxicity of the First 50 Multicentre Evaluation of In Vitro Cytotoxicity Chemicals to Aquatic Non-vertebrates, Calleja, M.C., G. Persoone, and P. Geladi, 1994

LC50, Fairy Shrimp (*Streptocephalus proboscideus*), larva(e), 193000. UMOL/L, 24 H, Mortality, Water temperature: 25.00 C (77.0 F) C.

Results:

No observed effect.

- Cyst-Based Toxicity Tests. IV. The Potential of Ecotoxicological Tests for the Prediction of Acute Toxicity in Man as Evaluated on the First Ten Chemicals of the MEIC Programme, Calleja, M.C., and G. Persoone, 1992

LC50, Midge (*Chironomus riparius*), larva(e), 12500000. UG/L, 48 H, Mortality, Water temperature: 21.00 C (69.8 F) C, pH: 8.20, Hardness: 210.00 MG/L.

Results:

No observed effect.

- A QSAR for Base-Line Toxicity to the Midge *Chironomus riparius*, Roghair, C.J., A. Buijze, E.S.E. Yedema, and J.L.M. Hermens, 1994

Effective concentration to {0} % of test organisms, Midge (*Chironomus riparius*), larva(e), 3000000. UG/L, 48 H, Mortality, Water temperature: 21.00 C (69.8 F) C, pH: 8.20, Hardness: 210.00 MG/L.

Results:

No observed effect.

- A QSAR for Base-Line Toxicity to the Midge *Chironomus riparius*, Roghair, C.J., A. Buijze, E.S.E. Yedema, and J.L.M. Hermens, 1994

Effective concentration to {0} % of test organisms, Midge (*Chironomus riparius*), larva(e), 18000000. UG/L, 48 H, Mortality, Water temperature: 21.00 C (69.8 F) C, pH: 8.20, Hardness: 210.00 MG/L.

Results:

No observed effect.

- A QSAR for Base-Line Toxicity to the Midge *Chironomus riparius*, Roghair, C.J., A. Buijze, E.S.E. Yedema, and J.L.M. Hermens, 1994

Not reported., Flagellate Euglenoid (*Entosiphon sulcatum*), 4930000. UG/L, 72 H, Population, Water temperature: 25.00 C (77.0 F) C.

Results:

Affected fish lost equilibrium prior to death.

- Comparison of the Toxicity Thresholds of Water Pollutants to Bacteria, Algae, and Protozoa in the Cell Multiplication Inhibition Test, Bringmann, G., and R. Kuhn, 1980

Not reported., Flagellate Euglenoid (*Entosiphon sulcatum*), 4930000. UG/L, 72 H, Population, Water temperature: 25.00 C (77.0 F) C, pH: 6.90.

Results:

No observed effect.

- Investigation of Biological Harmful Effects of Chemical Substances Which are Classified as Dangerous for Water on Protozoa, Bringmann, G., 1978

Not reported., Flagellate Euglenoid (*Entosiphon sulcatum*), 4930000. UG/L, Population.

Results:

No observed effect.

- Comparison of the Effect of Toxic Substances on the Flagellate Organisms Such as Ciliates and the Holozoic Bacteria-Devouring Organisms Such as Saprozoic Protozoans (Vergleich der Wirkung von Schadstoffen auf Flagellate, Bringmann, G., and R. Kuhn, 1981)

Not reported., Flagellate Euglenoid (*Entosiphon sulcatum*), 4930000. UG/L, Population.

Results:

No observed effect.

- Comparison of Toxic Limiting Concentrations of Water Contaminants Toward Bacteria, Algae and Protozoa in the Cell-Growth Inhibition Test (Vergleich der Toxischen Grenzkonzentrationen Wassergefahrdender Stoffe Gegen Bakte, Bringmann, G., and R. Kuhn, 1979)

Not reported., Blue-Green Algae (*Anacystis aeruginosa*), 1000000. UG/L, 8 D, Population, Water temperature: 27.00 C (80.6 F) C.

Results:

Age Effects.

- Testing of Substances for Their Toxicity Threshold: Model Organisms *Microcystis* (*Diplocystis*) *aeruginosa* and *Scenedesmus quadricauda*, Bringmann, G., and R. Kuhn, 1978

LC50, Rotifer (*Brachionus calyciflorus*), 476000. UMOL/L, 24 H, Mortality.

Results:

No observed effect.

- Comparative Acute Toxicity of the First 50 Multicentre Evaluation of In Vitro Cytotoxicity Chemicals to Aquatic Non-vertebrates, Calleja, M.C., G. Persoone, and P. Geladi, 1994

LC50, Rotifer (*Brachionus calyciflorus*), Post-hatch, 476000. UMOL/L, 24 H, Mortality, Water temperature: 25.00 C (77.0 F) C.

Results:

Affected fish lost equilibrium prior to death.

- Cyst-Based Toxicity Tests. IV. The Potential of Ecotoxicological Tests for the Prediction of Acute Toxicity in Man as Evaluated on the First Ten Chemicals of the MEIC Programme, Calleja, M.C., and G. Persoone, 1992

Effective concentration to 50% of test organisms., Inflated Duckweed (*Lemna gibba*), 75.54 MMOL/L, 7 D, Population, Water temperature: 27.50 C (81.5 F) C.

Results:

Age Effects.

- Physiological Effects of Ethylene Glycol-Induced Cribriform Frond Structure in *Lemna gibba*, Thomas, D.A., 1998

Effective concentration to 10% of test organisms., Inflated Duckweed (*Lemna gibba*), 12.44 MMOL/L, 7 D, Population, Water temperature: 27.50 C (81.5 F) C.

Results:

Age Effects.

- Physiological Effects of Ethylene Glycol-Induced Cribriform Frond Structure in *Lemna gibba*, Thomas, D.A., 1998

Not reported., Iberian Ribbed Newt (*Pleurodeles waltl*), larva(e), 1500. UG/L, 12 D,

Genetics, Water temperature: 20.00 C (68.0 F) C.

Results:

No observed effect.

- Evaluation of the Genotoxicity of N-Nitrosoatrazine, N-Nitrosodiethanolamine and Their Precursors In Vivo Using the Newt Micronucleus Test, L'Haridon, J., M. Fernandez, V. Ferrier, and J. Bellan, 1993

Effective concentration to {0} % of test organisms, Sand Goby (*Pomatoschistus minutus*), juvenile(s), 20.00 UG/L, 8 M, Mortality, Water temperature: 6.40 C (43.5 F) - 11.50 C (52.7 F) C.

Results:

Affected fish stopped schooling behavior.

Affected fish became hyperactive.

No loss of equilibrium observed.

- Bioindicators and Reproductive Effects of Prolonged 17beta-Oestradiol Exposure in a Marine Fish, the Sand Goby (*Pomatoschistus minutus*), Robinson, C.D., E. Brown, J.A. Craft, I.M. Davies, C. Megginson, C. Miller, and C.F. Moffat, 2007

Effective concentration to {0} % of test organisms, Sand Goby (*Pomatoschistus minutus*), juvenile(s), 20.00 UG/L, 8 M, Biochemistry, Water temperature: 6.40 C (43.5 F) - 11.50 C (52.7 F) C.

Results:

Affected fish stopped schooling behavior.

Affected fish became hypoactive.

Affected fish swam at or near bottom.

No loss of equilibrium observed.

- Bioindicators and Reproductive Effects of Prolonged 17beta-Oestradiol Exposure in a Marine Fish, the Sand Goby (*Pomatoschistus minutus*), Robinson, C.D., E. Brown, J.A. Craft, I.M. Davies, C. Megginson, C. Miller, and C.F. Moffat, 2007

Effective concentration to {0} % of test organisms, Sand Goby (*Pomatoschistus minutus*), juvenile(s), 20.00 UG/L, 8 M, Development, Water temperature: 6.40 C (43.5 F) - 11.50 C (52.7 F) C.

Results:

Age Effects.

- Bioindicators and Reproductive Effects of Prolonged 17beta-Oestradiol Exposure in a Marine Fish, the Sand Goby (*Pomatoschistus minutus*), Robinson, C.D., E. Brown, J.A. Craft, I.M. Davies, C. Megginson, C. Miller, and C.F. Moffat, 2007

Effective concentration to {0} % of test organisms, Sand Goby (*Pomatoschistus minutus*), juvenile(s), 20.00 UG/L, 8 M, Genetics, Water temperature: 6.40 C (43.5 F) - 11.50 C (52.7 F) C.

Results:

Age Effects.

- Bioindicators and Reproductive Effects of Prolonged 17beta-Oestradiol Exposure in a Marine Fish, the Sand Goby (*Pomatoschistus minutus*), Robinson, C.D., E. Brown, J.A. Craft, I.M. Davies, C. Megginson, C. Miller, and C.F. Moffat, 2007

Not reported., Sand Goby (*Pomatoschistus minutus*), juvenile(s), 20.00 UG/L, 8 M, Reproduction, Water temperature: 6.40 C (43.5 F) - 11.50 C (52.7 F) C.

Results:

Loss of equilibrium.

- Bioindicators and Reproductive Effects of Prolonged 17beta-Oestradiol Exposure in a

Marine Fish, the Sand Goby (*Pomatoschistus minutus*), Robinson, C.D., E. Brown, J.A. Craft, I.M. Davies, C. Megginson, C. Miller, and C.F. Moffat, 2007

Not reported., White Sturgeon (*Acipenser transmontanus*), 1000. - 10000. UG/L, 96 H, Mortality, Water temperature: 15.00 C (59.0 F) C, pH: 7.90, Hardness: <=34.10 MG/L.

Results:

No observed effect.

- Acute Toxicity Testing with Juvenile White Sturgeon (*Acipenser transmontanus*), Bennett, W.R., and A.P. Farrell, 1998

Not reported., Blue-Green Algae (*Microcystis aeruginosa*), 1000000. UG/L, 8 D, Population, pH: 7.00.

Results:

No observed effect.

- Determination of the Biologically Harmful Effect of Water Pollutants by Means of the Retardation of Cell Proliferation of the Blue Algae *Microcystis*, Bringmann, G., 1975

Effective concentration to {0} % of test organisms, Blue-Green Algae (*Microcystis aeruginosa*), 1000000. UG/L, Population.

Results:

No observed effect.

- Limiting Values for the Noxious Effects of Water Pollutant Material to Blue Algae (*Microcystis aeruginosa*) and Green Algae (*Scenedesmus quadricauda*) in Cell Propagation Inhibition Tests (Grenzwerte der Schadwirkung Wasse, Bringmann, G., and R. Kuhn, 1978

LC50, Nematode (*Caenorhabditis elegans*), larva(e), 6.550 % V/V, 24 H, Mortality.

Results:

Age Effects.

- Toxicity of Short-Chain Alcohols to the Nematode *Caenorhabditis elegans*: A Comparison of Endpoints, Thompson, G., and D.I. De Pomerai, 2005

LC50, Nematode (*Caenorhabditis elegans*), larva(e), 6.700 % V/V, 24 H, Mortality.

Results:

No observed effect.

- Toxicity of Short-Chain Alcohols to the Nematode *Caenorhabditis elegans*: A Comparison of Endpoints, Thompson, G., and D.I. De Pomerai, 2005

Effective concentration to 50% of test organisms., Green Algae (*Chlorella fusca* ssp. *vacuolata*), 0.190 UMOL/L, 24 H, Population, Water temperature: 28.00 C (82.4 F) C, pH: 6.90.

Results:

Loss of equilibrium.

- What Contributes to the Combined Effect of a Complex Mixture?, Altenburger, R., H. Walter, and M. Grote, 2004

Lethal concentration to 0% of test organisms., Carp (*Leuciscus idus* ssp. *melanotus*), 7020. MG/L, 48 H, Mortality.

Results:

Affected fish stopped schooling behavior.

Affected fish became hypoactive.

Affected fish swam at or near bottom.

No loss of equilibrium observed.

- Results of the Investigation of 200 Chemical Compounds for Acute Fish Toxicity with the Golden Orfe Test (Ergebnisse der Untersuchung von 200 Chemischen Verbindungen auf Akute Fischtoxizität mit dem Goldorfentest), Juhnke, I., and D. Luedemann, 1978

LC50, Carp (*Leuciscus idus ssp. melanotus*), 8970. MG/L, 48 H, Mortality.

Results:

No observed effect.

- Results of the Investigation of 200 Chemical Compounds for Acute Fish Toxicity with the Golden Orfe Test (Ergebnisse der Untersuchung von 200 Chemischen Verbindungen auf Akute Fischtoxizität mit dem Goldorfentest), Juhnke, I., and D. Luedemann, 1978

Lethal concentration to 100% of test organisms., Carp (*Leuciscus idus ssp. melanotus*), 10920. MG/L, 48 H, Mortality.

Results:

No observed effect.

- Results of the Investigation of 200 Chemical Compounds for Acute Fish Toxicity with the Golden Orfe Test (Ergebnisse der Untersuchung von 200 Chemischen Verbindungen auf Akute Fischtoxizität mit dem Goldorfentest), Juhnke, I., and D. Luedemann, 1978

Lethal concentration to 0% of test organisms., Carp (*Leuciscus idus ssp. melanotus*), 8190. MG/L, 48 H, Mortality.

Results:

Affected fish stopped schooling behavior.

- Results of the Investigation of 200 Chemical Compounds for Acute Fish Toxicity with the Golden Orfe Test (Ergebnisse der Untersuchung von 200 Chemischen Verbindungen auf Akute Fischtoxizität mit dem Goldorfentest), Juhnke, I., and D. Luedemann, 1978

LC50, Carp (*Leuciscus idus ssp. melanotus*), 9280. MG/L, 48 H, Mortality.

Results:

No observed effect.

- Results of the Investigation of 200 Chemical Compounds for Acute Fish Toxicity with the Golden Orfe Test (Ergebnisse der Untersuchung von 200 Chemischen Verbindungen auf Akute Fischtoxizität mit dem Goldorfentest), Juhnke, I., and D. Luedemann, 1978

Lethal concentration to 100% of test organisms., Carp (*Leuciscus idus ssp. melanotus*), 9750. MG/L, 48 H, Mortality.

Results:

No observed effect.

- Results of the Investigation of 200 Chemical Compounds for Acute Fish Toxicity with the Golden Orfe Test (Ergebnisse der Untersuchung von 200 Chemischen Verbindungen auf Akute Fischtoxizität mit dem Goldorfentest), Juhnke, I., and D. Luedemann, 1978

Effective concentration to {0} % of test organisms, Ciliate Protozoa (*Tetrahymena thermophila*), Stationary Growth Phase, 754.0 MG/L, 48 H, Population, Water temperature: 32.00 C (89.6 F) C.

Results:

No observed effect.

- A Case for the Inclusion of a Protozoan Test in Aquatic Toxicity Assessment Using *Tetrahymena*, Pauli, W., S. Berger, L. Jaskulka, and S. Schmitz, 1993

Effective concentration to 50% of test organisms., Ciliate Protozoa (*Tetrahymena thermophila*), Stationary Growth Phase, 8130. MG/L, 48 H, Population, Water temperature: 32.00 C (89.6 F) C.

Results:

No observed effect.

- A Case for the Inclusion of a Protozoan Test in Aquatic Toxicity Assessment Using Tetrahymena, Pauli, W., S. Berger, L. Jaskulka, and S. Schmitz, 1993

Effective concentration to 20% of test organisms., Ciliate Protozoa (Tetrahymena thermophila), Stationary Growth Phase, 3142. MG/L, 48 H, Population, Water temperature: 32.00 C (89.6 F) C.

Results:

No observed effect.

- A Case for the Inclusion of a Protozoan Test in Aquatic Toxicity Assessment Using Tetrahymena, Pauli, W., S. Berger, L. Jaskulka, and S. Schmitz, 1993

Effective concentration to 0% of test organisms., Ciliate Protozoa (Tetrahymena thermophila), Exponential Growth Phase, 250000. UG/L, 90 M, Avoidance, Water temperature: 32.00 C (89.6 F) C.

Results:

No observed effect.

- Chemosensory Responses of Ciliates: A Sensitive End Point in Xenobiotic Hazard Assessment, Pauli, W., S. Berger, S. Schmitz, and L. Jaskulka, 1994

Effective concentration to 10% of test organisms., Ciliate Protozoa (Tetrahymena thermophila), Exponential Growth Phase, 470000. UG/L, 90 M, Avoidance, Water temperature: 32.00 C (89.6 F) C.

Results:

No observed effect.

- Chemosensory Responses of Ciliates: A Sensitive End Point in Xenobiotic Hazard Assessment, Pauli, W., S. Berger, S. Schmitz, and L. Jaskulka, 1994

Effective concentration to 20% of test organisms., Ciliate Protozoa (Tetrahymena thermophila), Stationary Growth Phase, 4595. MG/L, 48 H, Population, Water temperature: 32.00 C (89.6 F) C.

Results:

No observed effect.

- A Case for the Inclusion of a Protozoan Test in Aquatic Toxicity Assessment Using Tetrahymena, Pauli, W., S. Berger, L. Jaskulka, and S. Schmitz, 1993

Effective concentration to {0} % of test organisms, Ciliate Protozoa (Tetrahymena thermophila), 754.0 MG/L, 48 H, Population.

Results:

No observed effect.

- Validation of Toxicological Endpoints with Tetrahymena. Membrane Functions, Chemotaxis, Cell Rotation in Electric Fields (Validierung Toxikologischer Prüfparameter an Tetrahymena: Membranfunktionen, Chemotaxis, Rotation, Pauli, W., S. Berger, S. Schmitz, L. Jaskulka, and K. Stadlander, 1993

Effective concentration to 10% of test organisms., Ciliate Protozoa (Tetrahymena thermophila), 1830. MG/L, 48 H, Population.

Results:

No observed effect.

- Validation of Toxicological Endpoints with Tetrahymena. Membrane Functions, Chemotaxis, Cell Rotation in Electric Fields (Validierung Toxikologischer Prüfparameter an Tetrahymena: Membranfunktionen, Chemotaxis, Rotation, Pauli, W., S. Berger, S.

Schmitz, L. Jaskulka, and K. Stadlander, 1993

Effective concentration to 20% of test organisms., Ciliate Protozoa (Tetrahymena thermophila), 4595. MG/L, 48 H, Population.

Results:

No observed effect.

- Validation of Toxicological Endpoints with Tetrahymena. Membrane Functions, Chemotaxis, Cell Rotation in Electric Fields (Validierung Toxikologischer Prüfparameter an Tetrahymena: Membranfunktionen, Chemotaxis, Rotation, Pauli, W., S. Berger, S. Schmitz, L. Jaskulka, and K. Stadlander, 1993

Effective concentration to 50% of test organisms., Ciliate Protozoa (Tetrahymena thermophila), 8130. MG/L, 48 H, Population.

Results:

No observed effect.

- Validation of Toxicological Endpoints with Tetrahymena. Membrane Functions, Chemotaxis, Cell Rotation in Electric Fields (Validierung Toxikologischer Prüfparameter an Tetrahymena: Membranfunktionen, Chemotaxis, Rotation, Pauli, W., S. Berger, S. Schmitz, L. Jaskulka, and K. Stadlander, 1993

Effective concentration to 10% of test organisms., Ciliate Protozoa (Tetrahymena thermophila), 1200. MG/L, 48 H, Population.

Results:

No observed effect.

- Validation of Toxicological Endpoints with Tetrahymena. Membrane Functions, Chemotaxis, Cell Rotation in Electric Fields (Validierung Toxikologischer Prüfparameter an Tetrahymena: Membranfunktionen, Chemotaxis, Rotation, Pauli, W., S. Berger, S. Schmitz, L. Jaskulka, and K. Stadlander, 1993

Effective concentration to 20% of test organisms., Ciliate Protozoa (Tetrahymena thermophila), 3142. MG/L, 48 H, Population.

Results:

No observed effect.

- Validation of Toxicological Endpoints with Tetrahymena. Membrane Functions, Chemotaxis, Cell Rotation in Electric Fields (Validierung Toxikologischer Prüfparameter an Tetrahymena: Membranfunktionen, Chemotaxis, Rotation, Pauli, W., S. Berger, S. Schmitz, L. Jaskulka, and K. Stadlander, 1993

Effective concentration to 50% of test organisms., Ciliate Protozoa (Tetrahymena thermophila), 7462. MG/L, 48 H, Population.

Results:

Affected fish swam at or near surface.

Affected fish lost equilibrium prior to death.

- Validation of Toxicological Endpoints with Tetrahymena. Membrane Functions, Chemotaxis, Cell Rotation in Electric Fields (Validierung Toxikologischer Prüfparameter an Tetrahymena: Membranfunktionen, Chemotaxis, Rotation, Pauli, W., S. Berger, S. Schmitz, L. Jaskulka, and K. Stadlander, 1993

Effective concentration to {0} % of test organisms, Zebra Danio (Danio rerio), adult(s), 1.000 MG/ML, 1 W, Biochemistry, Water temperature: 28.00 C (82.4 F) C.

Results:

Affected fish stopped schooling behavior.

Affected fish became hypoactive.

Affected fish swam at or near bottom.

No loss of equilibrium observed.

- Short-Term Exposure to Low Concentrations of the Synthetic Androgen Methyltestosterone Affects Vitellogenin and Steroid Levels in Adult male Zebrafish (*Danio rerio*), Andersen, L., R. Goto-Kazeto, J.M. Trant, J.P. Nash, B. Korsgaard, and P. Bjerregaard, 2006

Effective concentration to {0} % of test organisms, Zebra Danio (*Danio rerio*), adult(s), 1.000 MG/ML, 1 W, Hormone(s), Water temperature: 28.00 C (82.4 F) C.

Results:

Age Effects.

- Short-Term Exposure to Low Concentrations of the Synthetic Androgen Methyltestosterone Affects Vitellogenin and Steroid Levels in Adult male Zebrafish (*Danio rerio*), Andersen, L., R. Goto-Kazeto, J.M. Trant, J.P. Nash, B. Korsgaard, and P. Bjerregaard, 2006

Effective concentration to {0} % of test organisms, Zebra Danio (*Danio rerio*), adult(s), 1.000 MG/ML, 1 W, Hormone(s), Water temperature: 28.00 C (82.4 F) C.

Results:

Loss of equilibrium.

- Short-Term Exposure to Low Concentrations of the Synthetic Androgen Methyltestosterone Affects Vitellogenin and Steroid Levels in Adult male Zebrafish (*Danio rerio*), Andersen, L., R. Goto-Kazeto, J.M. Trant, J.P. Nash, B. Korsgaard, and P. Bjerregaard, 2006

Effective concentration to {0} % of test organisms, Zebra Danio (*Danio rerio*), adult(s), 1.000 MG/ML, 1 W, Enzyme(s), Water temperature: 28.00 C (82.4 F) C.

Results:

Loss of equilibrium.

- Short-Term Exposure to Low Concentrations of the Synthetic Androgen Methyltestosterone Affects Vitellogenin and Steroid Levels in Adult male Zebrafish (*Danio rerio*), Andersen, L., R. Goto-Kazeto, J.M. Trant, J.P. Nash, B. Korsgaard, and P. Bjerregaard, 2006

Not reported., Zebra Danio (*Danio rerio*), adult(s), 1.000 MG/ML, 1 W, Growth, Water temperature: 28.00 C (82.4 F) C.

Results:

Age Effects.

- Short-Term Exposure to Low Concentrations of the Synthetic Androgen Methyltestosterone Affects Vitellogenin and Steroid Levels in Adult male Zebrafish (*Danio rerio*), Andersen, L., R. Goto-Kazeto, J.M. Trant, J.P. Nash, B. Korsgaard, and P. Bjerregaard, 2006

Effective concentration to {0} % of test organisms, Zebra Danio (*Danio rerio*), adult(s), 1.000 MG/ML, 1 W, Hormone(s), Water temperature: 28.00 C (82.4 F) C.

Results:

Age Effects.

- Short-Term Exposure to Low Concentrations of the Synthetic Androgen Methyltestosterone Affects Vitellogenin and Steroid Levels in Adult male Zebrafish (*Danio rerio*), Andersen, L., R. Goto-Kazeto, J.M. Trant, J.P. Nash, B. Korsgaard, and P. Bjerregaard, 2006

Not reported., Zebra Danio (*Danio rerio*), juvenile(s), 0.100 0/00, 40 D, Mortality, Water

temperature: 29.20 C (84.6 F) C.

Results:

Age Effects.

- Evaluation of a 40 day Assay for Testing Endocrine Disrupters: Effects of an Anti-Estrogen and an Aromatase Inhibitor on Sex Ratio and Vitellogenin Concentrations in Juvenile Zebrafish (Danio rerio), Andersen, L., K. Kinnberg, H. Holbech, B. Korsgaard, and P. Bjerregaard, 2004

Not reported., Zebra Danio (Danio rerio), juvenile(s), 0.100 0/00, 40 D, Population, Water temperature: 29.20 C (84.6 F) C.

Results:

Age Effects.

- Evaluation of a 40 day Assay for Testing Endocrine Disrupters: Effects of an Anti-Estrogen and an Aromatase Inhibitor on Sex Ratio and Vitellogenin Concentrations in Juvenile Zebrafish (Danio rerio), Andersen, L., K. Kinnberg, H. Holbech, B. Korsgaard, and P. Bjerregaard, 2004

Not reported., Zebra Danio (Danio rerio), juvenile(s), 0.100 0/00, 18 D, Biochemistry, Water temperature: 29.20 C (84.6 F) C.

Results:

Age Effects.

- Evaluation of a 40 day Assay for Testing Endocrine Disrupters: Effects of an Anti-Estrogen and an Aromatase Inhibitor on Sex Ratio and Vitellogenin Concentrations in Juvenile Zebrafish (Danio rerio), Andersen, L., K. Kinnberg, H. Holbech, B. Korsgaard, and P. Bjerregaard, 2004

Effective concentration to {0} % of test organisms, Zebra Danio (Danio rerio), adult(s), 1.000 MG/ML, 1 W, Genetics, Water temperature: 28.00 C (82.4 F) C.

Results:

Age Effects.

- Short-Term Exposure to Low Concentrations of the Synthetic Androgen Methyltestosterone Affects Vitellogenin and Steroid Levels in Adult male Zebrafish (Danio rerio), Andersen, L., R. Goto-Kazeto, J.M. Trant, J.P. Nash, B. Korsgaard, and P. Bjerregaard, 2006

Not reported., Zebra Danio (Danio rerio), juvenile(s), 0.100 0/00, 18 - 40 D, Growth, Water temperature: 29.20 C (84.6 F) C.

Results:

Age Effects.

- Evaluation of a 40 day Assay for Testing Endocrine Disrupters: Effects of an Anti-Estrogen and an Aromatase Inhibitor on Sex Ratio and Vitellogenin Concentrations in Juvenile Zebrafish (Danio rerio), Andersen, L., K. Kinnberg, H. Holbech, B. Korsgaard, and P. Bjerregaard, 2004

Not reported., Ciliate (Uronema parduczi), 3425000. UG/L, Population.

Results:

No observed effect.

- Comparison of the Effect of Toxic Substances on the Flagellate Organisms Such as Ciliates and the Holozoic Bacteria-Devouring Organisms Such as Saprozoic Protozoans (Vergleich der Wirkung von Schadstoffen auf Flagellate, Bringmann, G., and R. Kuhn, 1981

Not reported., Ciliate (Uronema parduczi), 3425000. UG/L, 20 H, Population, Water

temperature: 0.00 C (32.0 F) C, pH: 6.90.

Results:

No observed effect.

- Determination of the Biological Effect of Water Pollutants in Protozoa. II. Bacteriovorous Ciliates (Bestimmung der Biologischen Schadwirkung Wassergefährdender Stoffe Gegen Protozoen. II. Bakterienfressende Ciliaten, Bringmann, G., and R. Kuhn, 1980

Effective concentration to 10% of test organisms., Green Algae Order (Chlorococcales), 680.0 MG/L, 24 H, Physiology.

Results:

Affected fish lost equilibrium prior to death.

- Bestimmung der Biologischen Schadwirkung Wassergefährdender Stoffe im Assimilations-Zehrungs-Test (A-Z-Test), Krebs, F., 1991

Effective concentration to 50% of test organisms., Green Algae Order (Chlorococcales), 1000. MG/L, 24 H, Physiology.

Results:

Affected fish stopped schooling behavior.

Affected fish swam at or near surface.

- Bestimmung der Biologischen Schadwirkung Wassergefährdender Stoffe im Assimilations-Zehrungs-Test (A-Z-Test), Krebs, F., 1991

Effective concentration to 50% of test organisms., Protozoa (Spirostomum ambiguum), 116.0 MMOL/L, 24 H, Development, Water temperature: 25.00 C (77.0 F) C, pH: 7.40, Hardness: 2.80 MG/L.

Results:

No observed effect.

- Spirotox - A new Tool for Testing the Toxicity of Volatile Compounds, Nalecz-Jawecki, G., and J. Sawicki, 1999

LC50, Protozoa (Spirostomum ambiguum), 369.0 MMOL/L, 24 H, Mortality, Water temperature: 25.00 C (77.0 F) C, pH: 7.40, Hardness: 2.80 MG/L.

Results:

No observed effect.

- Spirotox - A new Tool for Testing the Toxicity of Volatile Compounds, Nalecz-Jawecki, G., and J. Sawicki, 1999

Effective concentration to 50% of test organisms., Protozoa (Spirostomum ambiguum), 119.0 MMOL/L, 48 H, Development, Water temperature: 25.00 C (77.0 F) C, pH: 7.40, Hardness: 2.80 MG/L.

Results:

No observed effect.

- Spirotox - A new Tool for Testing the Toxicity of Volatile Compounds, Nalecz-Jawecki, G., and J. Sawicki, 1999

LC50, Protozoa (Spirostomum ambiguum), 354.0 MMOL/L, 48 H, Mortality, Water temperature: 25.00 C (77.0 F) C, pH: 7.40, Hardness: 2.80 MG/L.

Results:

No observed effect.

- Spirotox - A new Tool for Testing the Toxicity of Volatile Compounds, Nalecz-Jawecki, G., and J. Sawicki, 1999



SAFETY DATA SHEET

Gas Treatment

Inhibition concentration to 50% of test organisms, Fungus (*Geotrichum candidum*), 660.0 MMOL/L, 4 H, Physiology, Water temperature: 28.00 C (82.4 F) C, pH: 6.50.

Results:

No observed effect.

- Acute Toxicity of 16 Water-Soluble Chemicals to the Fungus *Geotrichum candidum* Measured by Reduction in Glucose Uptake, Jacobsen, T., 1995

Effective concentration to {0} % of test organisms, Coastal Cutthroat Trout (*Oncorhynchus clarkii* ssp. *clarkii*), 0.010 % V/V, 10 S, Physiology.

Results:

No observed effect.

- Behavioral Impairment and Increased Predation Mortality in Cutthroat Trout Exposed to Carbaryl, Labenia, J.S., D.H. Baldwin, B.L. French, J.W. Davis, and N.L. Scholz, 2007

Effective concentration to {0} % of test organisms, Coastal Cutthroat Trout (*Oncorhynchus clarkii* ssp. *clarkii*), 0.010 %, 6 H, Behavior.

Results:

Affected fish swam at or near surface.

Affected fish lost equilibrium prior to death.

- Behavioral Impairment and Increased Predation Mortality in Cutthroat Trout Exposed to Carbaryl, Labenia, J.S., D.H. Baldwin, B.L. French, J.W. Davis, and N.L. Scholz, 2007

Effective concentration to {0} % of test organisms, Coastal Cutthroat Trout (*Oncorhynchus clarkii* ssp. *clarkii*), 0.010 %, 6 H, Enzyme(s).

Results:

Affected fish swam at or near surface.

Affected fish lost equilibrium prior to death.

- Behavioral Impairment and Increased Predation Mortality in Cutthroat Trout Exposed to Carbaryl, Labenia, J.S., D.H. Baldwin, B.L. French, J.W. Davis, and N.L. Scholz, 2007

Effective concentration to {0} % of test organisms, Coastal Cutthroat Trout (*Oncorhynchus clarkii* ssp. *clarkii*), 0.010 %, 6 H, Enzyme(s).

Results:

Affected fish lost equilibrium prior to death.

- Behavioral Impairment and Increased Predation Mortality in Cutthroat Trout Exposed to Carbaryl, Labenia, J.S., D.H. Baldwin, B.L. French, J.W. Davis, and N.L. Scholz, 2007

Section 13. Disposal Considerations

13.1 Waste Disposal Method:

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

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Consumer Commodity
DOT Hazard Class: ORM-D ORM-D
UN/NA Number:

14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name: Flammable Liquid, n.o.s (Diesel Fuel), Ltd Qty.
UN Number: 1993 **Packing Group:** III
Hazard Class: N.A. **ADR Classification:** 3



SAFETY DATA SHEET

Gas Treatment

14.2 MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: Flammable Liquid, n.o.s (Diesel Fuel), Ltd Qty.
UN Number: 1993 **Packing Group:** III
Hazard Class: 3 - FLAMMABLE LIQUID
Marine Pollutant: No

Section 15. Regulatory Information
EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
68476-30-2	Fuel oil, no. 2	No	No	No
91-20-3	Naphthalene	No	Yes 100 LB	Yes
64742-88-7	Solvent naphtha medium aliphatic	No	No	No
104-76-7	1-Hexanol, 2-Ethyl-	No	No	No
25551-13-7	Benzene, Trimethyl-	No	No	No
NA	Polymer/amine	No	No	No
67-63-0	Isopropyl alcohol	No	No	Yes

CAS # Hazardous Components (Chemical Name)**Other US EPA or State Lists**

68476-30-2	Fuel oil, no. 2	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: No; NY Part 597: No; PA HSL: No; SC TAP: No; WI Air: No
91-20-3	Naphthalene	CAA HAP,ODC: HAP; CWA NPDES: Yes; TSCA: Inventory, 4 Test, 8A PAIR; CA PROP.65: Yes; CA TAC, Title 8: TAC, Title 8; MA Oil/HazMat: Yes; MI CMR, Part 5: Part 5; NC TAP: Yes; NJ EHS: Yes - 1322; NY Part 597: Yes; PA HSL: Yes - E; SC TAP: Yes; WI Air: Yes
64742-88-7	Solvent naphtha medium aliphatic	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: Yes - 4006; NY Part 597: No; PA HSL: No; SC TAP: No; WI Air: No
104-76-7	1-Hexanol, 2-Ethyl-	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory, 8D TERM; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: Yes; MI CMR, Part 5: No; NC TAP: No; NJ EHS: No; NY Part 597: No; PA HSL: Yes - 1; SC TAP: No; WI Air: No
25551-13-7	Benzene, Trimethyl-	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: Yes - 1929; NY Part 597: No; PA HSL: Yes - 1; SC TAP: No; WI Air: Yes
NA	Polymer/amine	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: No; NY Part 597: No; PA HSL: No; SC TAP: No; WI Air: No
67-63-0	Isopropyl alcohol	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory, 4 Test; CA PROP.65: No; CA TAC, Title 8: TAC, Title 8; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: Yes - 1076; NY Part 597: No; PA HSL: Yes - E; SC TAP: No; WI Air: No



SAFETY DATA SHEET

Gas Treatment

CAS #	Hazardous Components (Chemical Name)	International Regulatory Lists
68476-30-2	Fuel oil, no. 2	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes
91-20-3	Naphthalene	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes
64742-88-7	Solvent naphtha medium aliphatic	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes
104-76-7	1-Hexanol, 2-Ethyl-	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes
25551-13-7	Benzene, Trimethyl-	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes
NA	Polymer/amine	Canadian DSL: No; Canadian NDSL: No; Taiwan TCSCA: No
67-63-0	Isopropyl alcohol	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes

European Community Hazard Symbol codes:**European Community Risk and Safety Phrases:**

No data available.

Section 16. Other Information

Revision Date: 10/16/2014**Additional Information About** No data available.**This Product:****Company Policy or****Disclaimer:**

Cyclo Industries, Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. Cyclo Industries, Inc. makes no representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose with respect to the information set forth herein or to the product to which the information refers. Accordingly, Cyclo Industries, Inc. will not be responsible for damages resulting from use of or reliance upon this information.