SAFETY DATA SHEET

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Surclean Brightflow 205NC Soldering Flux

1.Identification

Product Name: Brightflow 205NC Soldering Flux
Product type: Liquid
Date of issue/Date of revision: 24/02/2023

2.Hazards identification

OSHA/HCS status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A CARCINOGENICITY - Category 2 TOXIC TO REPRODUCTION (Unborn child) - Category 1B SPECIFIC TARGET ORGAN TOXICITY (central nervous system (CNS), optic nerve) - Category 1 SPECIFIC TARGET ORGAN TOXICITY (Narcotic effects) - Category 3 AQUATIC HAZARD (ACUTE) - Category 2 AQUATIC HAZARD (LONG-TERM) - Category 2

GHS label elements
Hazard pictograms

Signal word	Danger
Hazard statements	Highly flammable liquid and vapor. Harmful if inhaled. Causes serious eye irritation. Causes skin irritation. May damage the unborn child. Suspected of causing cancer. Causes damage to organs. (central nervous system (CNS), optic nerve) May cause drowsiness or dizziness. Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapour. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
Response	Collect spillage. IF exposed: Call a POISON CENTRE or physician. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage	Store locked up. Store in a well-ventilated place. Keep cool.
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	Avoid contact with skin and clothing. Wash thoroughly after handling.
Hazards not otherwise classified	Prolonged or repeated contact may dry skin and cause irritation.

3.Composition/information on ingredients

Substance/mixture Mixture

Ingredient name	%	CAS number
Ethanol	60-70	64-17-5
Isopropyl alcohol	20-30	67-63-0
Alcohol Acetate	1-10	-
Carboxylic acid	1-10	-
4-methylpentan-2-one	0.1-1.0	108-10-1

A Trade Secret exemption is pending with the HMIRC for one or more ingredients in this product.
Registry Number: 10259on April 29, 2016
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

Description of necessary first aid measures

Eye contact	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 30 minutes, keeping eyelids open. Get medical attention. If necessary, call a poison centre or physician.

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that mists are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison centre or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin contact	Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 15 minutes. Get medical attention. If necessary, call a poison centre or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison centre or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	Causes serious eye irritation.
Inhalation	Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
Skin contact	Causes skin irritation. Defatting to the skin.
Ingestion	Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Eye contact	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations
Skin contact	Adverse symptoms may include the following: irritation redness dryness cracking reduced fetal weight increase in fetal deaths skeletal malformations
Ingestion	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations

Indication of immediate medical attention and special treatment needed, ifnecessary

Note to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Special treatments	No specific treatment.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that mists are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See Toxicological information (Section 11)

5.Firefighting measures

Extinguishing media

Suitable extinguishing media	Use dry chemical, CO2, water spray (fog) or foam.
Unsuitable extinguishing media	Do not use water jet.
Specific hazards arising from the chemical	Highly flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous thermal decomposition products	Decomposition products may include the following materials: carbon dioxide carbon monoxide
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 suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	Fire-fighters 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

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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 in "For non-emergency personnel".
6.2 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and materials for containment and cleaning up

Small spill	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Precautions for safe handling

Protective measures	Put on appropriate personal protective equipment (see Section 8). void exposure -obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

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Advice on general occupational hygiene	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. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	Storage temperature: 5 to 30°C (41 to 86°F). Store in accordance with local regulations. Store in a segregated and approved area. 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. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Ethanol	**ACGIH TLV (United States, 3/2017). Notes: 1996 Adoption Refers to Appendix A -- Carcinogens.** STEL: 1000 ppm 15 minutes. **NIOSH REL (United States, 10/2016).** TWA: 1900 mg/m³ 10 hours. TWA: 1000 ppm 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 1900 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.

Ethanol (cont)	**OSHA PEL 1989 (United States, 3/1989).** TWA: 1900 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.
Isopropyl alcohol	**ACGIH TLV (United States, 3/2017). Notes: Refers to Appendix A -- Carcinogens. ACGIH 2003 Adoption** STEL: 400 ppm 15 minutes. TWA: 200 ppm 8 hours. **NIOSH REL (United States, 10/2016).** STEL: 1225 mg/m³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 980 mg/m³ 10 hours. TWA: 400 ppm 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 980 mg/m³ 8 hours. TWA: 400 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 1225 mg/m³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 980 mg/m³ 8 hours. TWA: 400 ppm 8 hours.
Alcohol Acetate	**NIOSH REL (United States, 10/2016).** STEL: 950 mg/m³ 15 minutes. STEL: 200 ppm 15 minutes. TWA: 710 mg/m³ 10 hours. TWA: 150 ppm 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 710 mg/m³ 8 hours. TWA: 150 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 950 mg/m³ 15 minutes. STEL: 200 ppm 15 minutes. TWA: 710 mg/m³ 8 hours. TWA: 150 ppm 8 hours. **ACGIH TLV (United States, 3/2017).** STEL: 150 ppm 15 minutes. TWA: 50 ppm 8 hours.

Methanol	**ACGIH TLV (United States, 3/2017). Absorbed through skin. Notes: Substances for which there is a Biological Exposure Index or Indices** STEL: 328 mg/m³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 262 mg/m³ 8 hours. TWA: 200 ppm 8 hours. **NIOSH REL (United States, 10/2016). Absorbed through skin.** STEL: 325 mg/m³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 260 mg/m³ 10 hours. TWA: 200 ppm 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 260 mg/m³ 8 hours. TWA: 200 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.** STEL: 325 mg/m³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 260 mg/m³ 8 hours. TWA: 200 ppm 8 hours.
Carboxylic acid	**ACGIH TLV (United States, 3/2017).** TWA: 5 mg/m³ 8 hours.
4-methylpentan-2-one	**ACGIH TLV (United States, 3/2017).** TWA: 5 mg/m³ 8 hours. **ACGIH TLV (United States, 3/2017). Notes: Substances for which there is a Biological Exposure Index or Indices** STEL: 75 ppm 15 minutes. TWA: 20 ppm 8 hours. **NIOSH REL (United States, 10/2016).** STEL: 300 mg/m³ 15 minutes. STEL: 75 ppm 15 minutes. TWA: 205 mg/m³ 10 hours. TWA: 50 ppm 10 hours. **OSHA PEL (United States, 6/2016).** TWA: 410 mg/m³ 8 hours. TWA: 100 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 300 mg/m³ 15 minutes. STEL: 75 ppm 15 minutes. TWA: 205 mg/m³ 8 hours. TWA: 50 ppm 8 hours.

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Appropriate engineering controls	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the 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: chemical 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
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	Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

9. Physical and chemical properties

Appearance

Physical state	Liqiud
Colour	Colourless
Odour	Alcohol like
Odour threshold	Not available
pH	Not available
Melting point	Not available
Boiling point	Not available
Flash point	Closed cup: 12°C (53.6°F) [Tag Closed Cup]
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Lower and upper explosive (flammable) limits	Not available
Vapour pressure	Not available
Vapour density	>1 [Air = 1]
Relative density	0.7965
Solubility	Easily soluble in the following materials: cold water.
VOC	777.8 g/l
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	399°C (750.2°F)
Decomposition temperature	Not available
Viscosity	Not available

Aerosol product

10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidising materials, reducing materials, metals, acids, alkalis and moisture.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Other hazardous decomposition products	carbon oxides (CO, CO□)
Hazardous polymerisation	Under normal conditions of storage and use, hazardous polymerisation will not occur.

11. Toxicological information

Routes of entry - Eye contact, inhalation, ingestion

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethanol	LC50 Inhalation Vapour	Rat	124700 mg/m³	4 hours
	LD50 Oral	Rat	10600 mg/kg 0.8	-
	TDLo Oral	Man - Male	g/kg	-
	TDLo Oral	Mouse	4 g/kg	-

Product/ingredient name	Result	Species	Dose	Exposure
Isopropyl alcohol	LD50 Dermal	Rabbit	6290 mg/kg	-
	LD50 Oral	Rat	4.7 g/kg	-
Alcohol Acetate	LC50 Inhalation Gas. LC50	Rat	390 ppm	4 hours
	Inhalation Vapour	Rat	1087 ppm	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg 4300	-
	LD50 Oral	Mammal	mg/kg	-
	LD50 Oral	Rat	10768 mg/k	-
Methanol	LC50 Inhalation Gas.	Rat	145000 ppm	1 hour
	LC50 Inhalation Gas.	Rat	64000 ppm	4 hours
	LC50 Inhalation Vapour	Rat	64000 ppm	4 hours
	LD50 Oral	Rat	5600 mg/kg	-
	LDLo Oral	Man - Male	6422 mg/kg	-
	TDLo Oral	Man - Male	9450 uL/kg	-
	TDLo Oral	Man - Male	3571 uL/k	-
Carboxylic acid	LD50 Dermal	Rabbit	>7940 mg/kg	-
	LD50 Oral	Rabbit	>11000 mg/kg 5050	-
	LD50 Oral	Rat	mg/kg	-
	LD50 Oral	Rat	>11000 mg/	-
4-methylpentan-2-one	LD50 Dermal	Rabbit	>3000 mg/kg	-
	LD50 Oral	Rat	2080 mg/k	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Ethanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Moderate irritant	Rabbit	-	0.66666667 mins 100mg	-
	Eyes - Moderate irritant	Rabbit	-	100 microliters 500mg	-
	Eyes - Severe irritant	Rabbit	-	500mg	-
	Skin - Mild irritant	Rabbit	-	400mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20mg	-
Isopropyl alcohol	Eyes - Moderate irritant	Rabbit	-	24 hours 100mg	-
	Eyes - Moderate irritant Eyes -	Rabbit	-	10mg	-
	Severe irritant	Rabbit	-	100mg	-
	Skin - Mild irritant	Rabbit	-	500mg	-
Alcohol Acetate	Eyes - Moderate irritant	Rabbit	-	100mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500mg	-
Methanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100mg	-
	Eyes - Moderate irritant Skin -	Rabbit	-	40mg	-
	Moderate irritant	Rabbit	-	24 hours 20mg	-
Carboxylic acid	Eyes - Mild irritant	Rabbit	-	10mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20mg	-
	Skin - Mild irritant	Rabbit	-	0.25 Grams	-

Product/ingredient name	Result	Species	Score	Exposure	Observation
4-methylpentan-2-one	Eyes - Moderate irritant	Rabbit	-	24 hours 100 micrometers	-
	Eyes - Severe irritant	Rabbit	-	40mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500mg	-

Sensitisation - Not available

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Ethanol	-	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Equivocal
	-	Experiment: In vitro Subject: Mammalian-Human Cell: Somatic	Equivocal

Carcinogenicity - No applicable toxicity data

Additional information
Classification

Product/ingredient name	OSHA	IARC	NTP
Isopropyl alcohol	-	3	-
4-methylpentan-2-one	-	2B	-

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Ethanol	-	-	Equivocal	Woman	Oral: 41g/kg	-
	-	-	Equivocal	Woman	Oral: 250mg/kg	-
Methanol	-	-	Positive	Mouse-Female	Oral: 4g/kg	
	Negative	-	Positive	Rat-Female	Oral: 5200 µg/kg	

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Methanol	Positive - Oral	Rat	1027 mg/kg	-

Specific target organ toxicity

Name	Category	Route of exposure	Target organs
Isopropyl alcohol Alcohol Acetate. methanol	Category 3 Category 3 Category 1	Not applicable Not applicable Not determined	Narcotic effects Narcotic effects central nervous system (CNS) and optic nerve
4-methylpentan-2-one	Category 3	Not applicable	Respiratory tract irritation

Specific target organ toxicity (repeated exposure) - not available

Aspiration hazard - Not available

Information on the likely routes of exposure
Routes of entry anticipated: Oral, Inhalation

Potential health effects

Eye contact	Causes serious eye irritation.
Inhalation	Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
Skin contact	Causes skin irritation. Defatting to the skin.
Ingestion	Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	Adverse symptoms may include the following: pain or irritation watering redness

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Inhalation	Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations
Skin contact	Adverse symptoms may include the following: irritation redness dryness cracking reduced fetal weight increase in fetal deaths skeletal malformations
Ingestion	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations

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

Short term exposure
Potential immediate effects - Not available
Potential delayed effects - Not available

Long term exposure
Potential immediate effects - Not available
Potential delayed effects - Not available

Potential chronic health effects

General	Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
Carcinogenicity	Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	May damage the unborn child.
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

Route	ATE value
Oral	2945.3 mg/kg
Dermal	4173.1 mg/kg
Inhalation (gases)	3990.3 ppm
Inhalation (vapours	75.82 mg/l

12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Ethanol	Acute EC50 17.921 mg/l Marine water Acute EC50 2000 µg/l Fresh water Acute LC50 25500 µg/l Marine water	Algae - Ulva pertusa Daphnia - Daphnia magna Crustaceans - Artemia franciscana - Larvae	96 hours 48 hours 48 hours
	Acute LC50 42000 µg/l Fresh water Chronic NOEC 4.995 mg/l Marine water Chronic NOEC 100 ul/L Fresh water	Fish - Oncorhynchus mykiss Algae - Ulva pertusa Daphnia - Daphnia magna - Neonate	4 days 96 hours 21 days
	Chronic NOEC 0.375 ul/L Fresh water	Fish - Gambusia holbrooki - Larvae	12 weeks
Isopropyl alcohol	Acute EC50 10100 mg/l Fresh water Acute LC50 1400000 µg/l Marine water	Daphnia - Daphnia magna Crustaceans - Crangon crangon	48 hours 48 hours
	Acute LC50 4200 mg/l Fresh water	Fish - Rasbora heteromorpha	96 hours
Alcohol Acetate	Acute LC50 32 mg/l Marine water	Crustaceans - Artemia salina Fish - Pimephales promelas	48 hours
	Acute LC50 18000 µg/l Fresh water		96 hours

Product/ingredient name	Result	Species	Exposure
Methanol	Acute EC50 16.912 mg/l Marine water Acute LC50 2500000 µg/l Marine water Acute LC50 3289 mg/l Fresh water Acute LC50 290 mg/l Fresh water Chronic NOEC 9.96 mg/l Marine water	Algae - Ulva pertusa Crustaceans - Crangon crangon - Adult Daphnia - Daphnia magna - Neonate Fish - Danio rerio - Egg Algae - Ulva pertusa	96 hours 48 hours 48 hours 96 hours 96 hours
Carboxylic acid	Acute LC50 97000 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
4-methylpentan-2-one	Acute LC50 505000 µg/l Fresh water Chronic NOEC 78 mg/l Fresh water Chronic NOEC 168 mg/l Fresh water	Fish - Pimephales promelas Daphnia - Daphnia magna Fish - Pimephales promelas - Embryo	96 hours 21 days 33 days

Persistence and degradability - Not available

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Ethanol	-0.35	-	Low
Isopropyl alcohol	0.05	-	Low
Alcohol Acetate	2.3	-	Low
Methanol	-0.77	<10	Low
Carboxylic acid	0.093	3.162	Low
4-methylpentan-2-one	1.9	-	Low

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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	UN	IMDG	IATA
UN number	UN1993	UN1993	UN1993	UN1993	UN1993	UN1993
UN proper shipping name	Flammable liquid, n.o.s. (ethanol, Isopropyl alcohol	Flammable liquid, n.o.s. (ethanol, Isopropyl alcohol	Flammable liquid, n.o.s. (ethanol, Isopropyl alcohol	Flammable liquid, n.o.s. (ethanol, Isopropyl alcohol	Flammable liquid, n.o.s. (ethanol, Isopropyl alcohol	Flammable liquid, n.o.s. (ethanol, Isopropyl alcohol
Transport hazard class(es)					 	

	DOT Classification	TDG Classification	Mexico Classification	UN	IMDG	IATA
Packing group	II	II	II	II	II	II
Environmental hazards	No.	Yes. The environmentally hazardous substance mark is not required.	Yes. The environmentally hazardous substance mark is not required.	Yes. The environmentally hazardous substance mark is not required.	Yes	Yes. The environmentally hazardous substance mark is not required.
Additional information - DOT Classification	ERG# 128					
Additional information - IMDG Classification	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.					
Additional information - IATA Classification	The environmentally hazardous substance mark may appear if required by other transportation regulations.					

Special precautions for user

Transport within user's premises: always transport in closed containers that areupright and secure. Ensure that persons transporting the product know what to do in theevent of an accident or spillage.

15. Regulatory information

U.S. Federal regulations	TSCA 5(a)2 proposed significant new use rule (SNUR): No products were found. TSCA 5(a)2 final significant new use rule (SNUR): No products were found. TSCA 12(b) one-time export notification: No products were found. TSCA 12(b) annual export notification: No products were found.
United States inventory (TSCA 8b)	All components are listed or exempted.

SARA 302/304

Composition/information on ingredients - No products were found.

SARA 311/312	
Classification	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard

SARA 313

	Product name	**CAS number**	**%**
Form R - Reporting requirements	methanol	67-56-1	1-10
Supplier notification	methanol	67-56-1	1-10

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall includecopying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or otherreproductive harm.

Canada

Canada inventory: All components are listed or exempted.

International lists

National inventory

Australia: All components are listed or exempted.

China: All components are listed or exempted.

Europe: All components are listed or exempted.

Japan: All components are listed or exempted.

Malaysia: Not determined.

New Zealand: All components are listed or exempted.

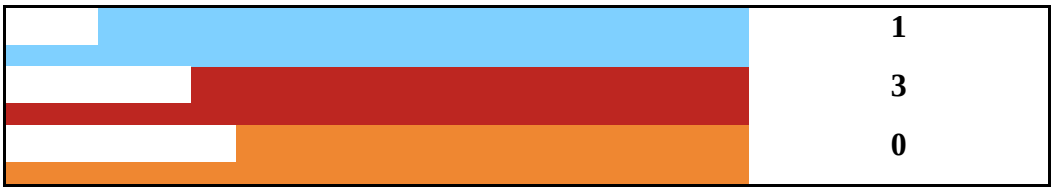
Philippines: All components are listed or exempted.

Republic of Korea: All components are listed or exempted.

Taiwan:	All components are listed or exempted.
Thailand:	Not determined.
Turkey:	Not determined.
Vietnam:	Not determined.

16. Other information

Hazardous Material Information System (U.S.A.)



Procedure used to derive the classification

Classification	Justification
Flam. Liq. 2, H225	On basis of test data
Acute Tox. 4, H332	Calculation method
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2A, H319	Calculation method
Carc. 2, H351	Calculation method
Repr. 1B, H360 (Unborn child)	Calculation method
STOT SE 1, H370 (central nervous system (CNS), optic nerve)	Calculation method
STOT SE 3, H336	
Aquatic Acute 2, H401	Calculation method
Aquatic Chronic 2, H411	Calculation method

History	
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Prepared by	**Surclean**

Key to abbreviations:

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.