

SAFETY DATA SHEET

Creation Date 28-Jan-2014

Revision Date 28-Jan-2014

Revision Number 1

1. Identification

Product Name Flex 95

Cat No. : 8201, V8201, 8205, 8215, 8255

Synonyms No information available

Recommended Use Laboratory chemicals.

Uses advised against No Information available

Details of the supplier of the safety data sheet

| Company | Emergency Telephone Number |
|--|---------------------------------|
| Richard Allan Scientific | Chemtrec US: (800) 424-9300 |
| A Subsidiary of Thermo Fisher Scientific | Chemtrec EU: 001 (202) 483-7616 |
| 4481 Campus Drive | |
| Kalamazoo, MI 49008 | |
| Tel: (800) 522-7270 | |

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|--|------------|
| Flammable liquids | Category 2 |
| Acute oral toxicity | Category 3 |
| Acute dermal toxicity | Category 3 |
| Acute Inhalation Toxicity - Vapors | Category 3 |
| Serious Eye Damage/Eye Irritation | Category 2 |
| Specific target organ toxicity (single exposure) | Category 1 |
| Target Organs - Central nervous system (CNS), Optic nerve. | |
| Specific target organ toxicity - (repeated exposure) | Category 1 |
| Target Organs - Kidney, Liver, spleen. | |

Label Elements

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor
Toxic if swallowed
Toxic in contact with skin
Causes serious eye irritation
Toxic if inhaled
May cause drowsiness or dizziness
Causes damage to organs
Causes damage to organs through prolonged or repeated exposure



Precautionary Statements

Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Wear protective gloves/protective clothing/eye protection/face protection
 Use only outdoors or in a well-ventilated area
 Do not breathe dust/fume/gas/mist/vapors/spray
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 Keep container tightly closed
 Ground/bond container and receiving equipment
 Use explosion-proof electrical/ventilating/lighting/equipment
 Use only non-sparking tools
 Take precautionary measures against static discharge
 Keep cool

Response

IF exposed: Call a POISON CENTER or doctor/physician

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician

Skin

Call a POISON CENTER or doctor/physician if you feel unwell
 Wash contaminated clothing before reuse
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

Eyes

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 advice/attention

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 Rinse mouth

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction

Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Other hazards

Poison, may be fatal or cause blindness if swallowed. Vapor harmful. Cannot be made non-poisonous. WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

3. Composition / information on ingredients

| Component | CAS-No | Weight % |
|-------------------|---------|----------|
| Isopropyl alcohol | 67-63-0 | 57 - 63 |
| Methyl alcohol | 67-56-1 | 37 - 43 |

4. First-aid measures

| | |
|--|--|
| General Advice | If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention. If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician. |
| Inhalation | Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician. |
| Ingestion | Do not induce vomiting. Call a physician or Poison Control Center immediately. Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician. |
| Most important symptoms/effects | Breathing difficulties. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---|--|
| Suitable Extinguishing Media | CO ₂ , dry chemical, dry sand, alcohol-resistant foam. Cool closed containers exposed to fire with water spray. |
| Unsuitable Extinguishing Media | Water may be ineffective |
| Flash Point | 16.6 °C / 61.9 °F |
| Method - | No information available |
| Autoignition Temperature | No information available |
| Explosion Limits | |
| Upper | 36.0 vol % |
| Lower | 2.0 vol % |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |

Specific Hazards Arising from the Chemical

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated.

Hazardous Combustion Products

Carbon monoxide (CO) Carbon dioxide (CO₂) Formaldehyde peroxides

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health
3

Flammability
3

Instability
0

Physical hazards
N/A

6. Accidental release measures

| | |
|---|--|
| Personal Precautions | Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges. Do not get in eyes, on skin, or on clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. |
| Environmental Precautions | Should not be released into the environment. See Section 12 for additional ecological information. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. |
| Methods for Containment and Clean Up | Remove all sources of ignition. Soak up with inert absorbent material. Take precautionary measures against static discharges. Keep in suitable, closed containers for disposal. |

7. Handling and storage

| | |
|-----------------|--|
| Handling | Use only under a chemical fume hood. Wear personal protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Do not ingest. Pay attention to flashback. No information available. Do not take internally. |
| Storage | Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Flammables area. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers. |

8. Exposure controls / personal protection

Exposure Guidelines

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|-------------------|---------------------------------------|--|---|
| Isopropyl alcohol | TWA: 200 ppm STEL: 400 ppm | (Vacated) TWA: 400 ppm (Vacated) TWA: 980 mg/m ³ (Vacated) STEL: 500 ppm (Vacated) STEL: 1225 mg/m ³ TWA: 400 ppm TWA: 980 mg/m ³ | IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m ³ STEL: 500 ppm STEL: 1225 mg/m ³ |
| Methyl alcohol | TWA: 200 ppm STEL: 250 ppm Skin | (Vacated) TWA: 200 ppm (Vacated) TWA: 260 mg/m ³ (Vacated) STEL: 250 ppm (Vacated) STEL: 325 mg/m ³ Skin TWA: 200 ppm TWA: 260 mg/m ³ | IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m ³ STEL: 250 ppm STEL: 325 mg/m ³ |

| Component | Quebec | Mexico OEL (TWA) | Ontario TWAEV |
|-------------------|--|---|---------------------------------------|
| Isopropyl alcohol | TWA: 400 ppm TWA: 985 mg/m ³ STEL: 500 ppm STEL: 1230 mg/m ³ | TWA: 400 ppm TWA: 980 mg/m ³ STEL: 500 ppm STEL: 1225 mg/m ³ | TWA: 200 ppm STEL: 400 ppm |
| Methyl alcohol | TWA: 200 ppm TWA: 262 mg/m ³ STEL: 250 ppm STEL: 328 mg/m ³ Skin | TWA: 200 ppm TWA: 260 mg/m ³ STEL: 250 ppm STEL: 310 mg/m ³ | TWA: 200 ppm STEL: 250 ppm Skin |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

| | |
|-----------------------------|--|
| Engineering Measures | Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location. |
|-----------------------------|--|

Personal Protective Equipment

| | |
|---------------------------------|---|
| Eye/face Protection | Tightly fitting safety goggles. Face-shield. |
| Skin and body protection | Long sleeved clothing. Apron. Impervious gloves. |
| Respiratory Protection | Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. |
| Hygiene Measures | When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. |

9. Physical and chemical properties

| | |
|---|-------------------------------|
| Physical State | Liquid |
| Appearance | Clear Colorless |
| Odor | Alcohol-like |
| Odor Threshold | No information available |
| pH | 5.0 - 7.3 |
| Melting Point/Range | No data available |
| Boiling Point/Range | 73 - 80 °C / 163.4 - 176.0 °F |
| Flash Point | 16.6 °C / 61.9 °F |
| Evaporation Rate | 2.9 (Butyl Acetate = 1.0) |
| Flammability (solid,gas) | No information available |
| Flammability or explosive limits | |
| Upper | 36.0 vol % |
| Lower | 2.0 vol % |
| Vapor Pressure | 47 mmHg |
| Vapor Density | 1.4 (Air = 1.0) |
| Relative Density | 0.82 |
| Solubility | Soluble in water |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | No information available |
| Decomposition temperature | No information available |
| Viscosity | No information available |

10. Stability and reactivity

| | |
|---|--|
| Reactive Hazard | None known, based on information available |
| Stability | Stable under normal conditions. |
| Conditions to Avoid | Incompatible products. Heat, flames and sparks. |
| Incompatible Materials | Strong oxidizing agents, Peroxides, Acids, Acid anhydrides, Acid chlorides, Metals |
| Hazardous Decomposition Products | Carbon monoxide (CO), Carbon dioxide (CO ₂), Formaldehyde, peroxides |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information

Acute Toxicity

| | |
|--------------------|---|
| Oral LD50 | Category 3. ATE = 50 - 300 mg/kg. |
| Dermal LD50 | Category 3. ATE = 200 - 1000 mg/kg. |
| Vapor LC50 | Based on ATE data, the classification criteria are not met. ATE > 20 mg/l. Category 3. ATE = 2 - 10 mg/l. |

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-------------------|--------------------|---|-----------------------|
| Isopropyl alcohol | 5840 mg/kg (Rat) | 13900 mg/kg (Rat) 12870 mg/kg (Rabbit) | 72.6 mg/L (Rat) 4 h |

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes and skin

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|-------------------|---------|------------|------------|------------|------------|------------|
| Isopropyl alcohol | 67-63-0 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Methyl alcohol | 67-56-1 | Not listed | Not listed | Not listed | Not listed | Not listed |

IARC: (International Agency for Research on Cancer)

IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

Mutagenic Effects No information available

Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects Developmental effects have occurred in experimental animals.

Teratogenicity Teratogenic effects have occurred in experimental animals.

STOT - single exposure Central nervous system (CNS) Optic nerve

STOT - repeated exposure Kidney Liver spleen

Aspiration hazard No information available

Symptoms / effects, both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Endocrine Disruptor Information No information available

Other Adverse Effects See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|-------------------|--|---|---|---|
| Isopropyl alcohol | 1000 mg/L EC50 > 72 h 1000 mg/L EC50 > 96 h | 1400000 µg/L LC50 96 h 11130 mg/L LC50 96 h 9640 mg/L LC50 96 h | = 35390 mg/L EC50 Photobacterium phosphoreum 5 min | 13299 mg/L EC50 = 48 h 9714 mg/L EC50 = 24 h |
| Methyl alcohol | Not listed | Pimephales promelas: LC50 > 10000 mg/L 96h | EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min | EC50 > 10000 mg/L 24h |

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available.

Mobility

| Component | log Pow |
|-------------------|---------|
| Isopropyl alcohol | 0.05 |
| Methyl alcohol | -0.74 |

13. Disposal considerations

Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

| Component | RCRA - U Series Wastes | RCRA - P Series Wastes |
|--------------------------|------------------------|------------------------|
| Methyl alcohol - 67-56-1 | U154 | - |

14. Transport information

DOT

UN-No UN1219
 Proper Shipping Name ISOPROPANOL SOLUTION
 Hazard Class 3
 Packing Group II

TDG

UN-No UN1219
 Proper Shipping Name ISOPROPANOL SOLUTION
 Hazard Class 3
 Packing Group II

IATA

UN-No UN1219
 Proper Shipping Name ISOPROPANOL SOLUTION
 Hazard Class 3
 Packing Group II

IMDG/IMO

UN-No UN1219
 Proper Shipping Name ISOPROPANOL SOLUTION
 Hazard Class 3
 Packing Group II

15. Regulatory information

All of the components in the product are on the following Inventory lists: Australia X = listed China Canada Europe TSCA Korea Philippines Japan

International Inventories

| Component | TSCA | DSL | NDSL | EINECS | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|-------------------|------|-----|------|-----------|--------|-----|-------|------|------|-------|------|
| Isopropyl alcohol | X | X | - | 200-661-7 | - | | X | X | X | X | X |
| Methyl alcohol | X | X | - | 200-659-6 | - | | X | X | X | X | X |

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b)

Not applicable

SARA 313

| Component | CAS-No | Weight % | SARA 313 - Threshold Values % |
|-------------------|---------|----------|-------------------------------|
| Isopropyl alcohol | 67-63-0 | 57 - 63 | 1.0 |
| Methyl alcohol | 67-56-1 | 37 - 43 | 1.0 |

SARA 311/312 Hazardous Categorization

| | |
|-----------------------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | Yes |
| Fire Hazard | Yes |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

Clean Water Act Not applicable

Clean Air Act

| Component | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|----------------|-----------|-------------------------|-------------------------|
| Methyl alcohol | X | | - |

OSHA Occupational Safety and Health Administration

Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Component | Hazardous Substances RQs | CERCLA EHS RQs |
|----------------|--------------------------|----------------|
| Methyl alcohol | 5000 lb | - |

California Proposition 65 This product does not contain any Proposition 65 chemicals

| Component | CAS-No | California Prop. 65 | Prop 65 NSRL | Category |
|----------------|---------|---------------------|--------------|---------------|
| Methyl alcohol | 67-56-1 | Methanol | - | Developmental |

State Right-to-Know

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-------------------|---------------|------------|--------------|----------|--------------|
| Isopropyl alcohol | X | X | X | - | X |
| Methyl alcohol | X | X | X | X | X |

U.S. Department of Transportation

| | |
|-----------------------------|---|
| Reportable Quantity (RQ): | Y |
| DOT Marine Pollutant | N |
| DOT Severe Marine Pollutant | N |

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade Serious risk, Grade 3

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class

B2 Flammable liquid
D2A Very toxic materials
D1A Very toxic materials



16. Other information

| | |
|-------------------------|--|
| Prepared By | Regulatory Affairs Thermo Fisher Scientific Email: EMSDS.RA@thermofisher.com |
| Creation Date | 28-Jan-2014 |
| Revision Date | 28-Jan-2014 |
| Print Date | 28-Jan-2014 |
| Revision Summary | This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) |

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS