

SAFETY DATA SHEET

Zyvax® FLEX-Z 4.0



Section 1. Identification

Product name : Zyvax® FLEX-Z 4.0

Relevant identified uses of the substance or mixture and uses advised against

Not available.

Supplier's details : Chem-Trend LP
1445 W McPherson Park Dr
PO Box 860, Howell MI 48844-0860
517-546-4520

Emergency telephone number and Telephone number : +1 517 546 4520

Section 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
SKIN IRRITATION - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 84%

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Highly flammable liquid and vapor.
Causes skin irritation.
May cause drowsiness or dizziness.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection. 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 breathing vapor. Wash hands thoroughly after handling.

Response : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: 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.

Section 2. Hazards identification

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
2,2,4-trimethylpentane	≥75 - ≤90	540-84-1
Naphtha (petroleum), light alkylate	≥10 - ≤15	64741-66-8

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes 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 center 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** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. 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 center 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/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Causes skin irritation.
- 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

Section 4. First aid measures

- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes 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.

See toxicological information (Section 11)

Section 5. Fire-fighting 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 vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. 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 fire-fighters : 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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. 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 vapor 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".

- 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.

Methods and materials for containment and cleaning up

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.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. 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.
- Conditions for safe storage, including any incompatibilities** : 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 oxidizing 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
2,2,4-trimethylpentane	ACGIH TLV (United States, 3/2015). TWA: 300 ppm 8 hours.
Naphtha (petroleum), light alkylate	ACGIH TLV (United States). TWA: 1200 mg/m ³

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, vapor 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

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.

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.

Section 9. Physical and chemical properties

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Physical state	Liquid.	Color	Clear. Colorless to light yellow.
Odor	Characteristic.	Odor threshold	Not available.
pH	Not available.	Melting point	Not available.
Boiling point	99°C (210.2°F)	Flash point	Closed cup: -7.8°C (18°F)
Burning time	Not applicable.	Burning rate	Not applicable.
Evaporation rate	Not available.	Flammability (solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Not available.	Vapor pressure	Not available.
Vapor density	Not available.	Relative density	0.693
Solubility	Insoluble in the following materials: cold water.	Solubility in water	Not available.
Partition coefficient: n-octanol/water	Not available.	Auto-ignition temperature	Not available.
Decomposition temperature	Not available.	SADT	Not available.
Viscosity	Not available.	Volatility	99.861

Lower and upper explosive (flammable) limits

2,2,4-trimethylpentane

Naphtha (petroleum), light alkylate

Lower: 1.1% Upper: 6%

Lower: 1.4% Upper: 7.6%

Section 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 pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- Incompatible materials** : Reactive or incompatible with the following materials: oxidizing materials
- Hazardous decomposition products** : Formaldehyde and silicon dioxide may be evolved at elevated temperatures.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Naphtha (petroleum), light alkylate	LC50 Inhalation Vapor	Rat	21 mg/l	4 hours
	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-

Irritation/Corrosion : Causes skin irritation.

Sensitization : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Carcinogenicity :
No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Name	Target organs
2,2,4-trimethylpentane	Narcotic effects
Naphtha (petroleum), light alkylate	Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Name	Result
2,2,4-trimethylpentane	ASPIRATION HAZARD - Category 1
Naphtha (petroleum), light alkylate	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Routes of entry anticipated: Dermal.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

<p>Eye contact</p> <p>Adverse symptoms may include the following: pain or irritation watering redness</p> <p>Inhalation</p> <p>Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness</p>	<p>Skin contact</p> <p>Adverse symptoms may include the following: irritation redness</p> <p>Ingestion</p> <p>No specific data.</p>
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Section 11. Toxicological information

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.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	5168.5 mg/kg
Dermal	2067.4 mg/kg

Section 12. Ecological information

No known significant effects or critical hazards.

Section 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.

RCRA classification : D001 Because of its ignitability if the product is disposed of in its original form.

Section 14. Transport information

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	DOT Classification	Bulk	TDG Classification	IATA	IMDG
UN number	UN1866	UN1866	UN1866	UN1866	UN1866
UN proper shipping name	Resin solution	RESIN SOLUTION (Isooctane)	RESIN SOLUTION	Resin solution	RESIN SOLUTION (Cycloalkanes and Isoalkanes)
Transport hazard class(es)	3	3	3	3	3
Packing group	II	II	II	II	II
Environmental hazards	No.	No	No.	No.	Yes.
Additional information	<p><u>Reportable quantity</u> 1190.1 lbs / 540.29 kg [205.96 gal / 779.64 L] Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.</p> <p><u>Limited quantity</u> Yes.</p> <p><u>Packaging instruction</u> Passenger aircraft Quantity limitation: 5 L</p> <p>Cargo aircraft Quantity limitation: 60 L</p> <p><u>Special provisions</u> 149, B52, IB2, T4, TP1, TP8</p>		<p>Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).</p> <p><u>Explosive Limit and Limited Quantity Index</u> 5</p> <p><u>Passenger Carrying Road or Rail Index</u> 5</p>	<p>The environmentally hazardous substance mark may appear if required by other transportation regulations.</p> <p><u>Passenger and Cargo Aircraft</u> Quantity limitation: 5 L Packaging instructions: 353</p> <p><u>Cargo Aircraft Only</u> Quantity limitation: 60 L Packaging instructions: 364</p> <p><u>Limited Quantities - Passenger Aircraft</u> Quantity limitation: 1 L Packaging instructions: Y341</p> <p><u>Special provisions</u> A3</p>	<p>The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.</p> <p><u>Emergency schedules (EmS)</u> F-E, _S-E_</p>

Emergency Response Guidebook (ERG): 127

Section 15. Regulatory information

International lists :

Australia inventory (AICS)	All components are listed or exempted.
Canada inventory (DSL/NDSL)	At least one component is not listed in DSL but all such components are listed in NDSL.
China inventory (IECSC)	All components are listed or exempted.
Europe inventory (EINECS)	All components are listed or exempted.
Japan inventory	Japan inventory (ENCS): All components are listed or exempted. Japan inventory (ISHL): Not determined.
Korea inventory (KECI)	All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC)	All components are listed or exempted.
Philippines inventory (PICCS)	All components are listed or exempted.
United States inventory (TSCA 8b)	All components are listed or exempted.

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)

2,2,4-trimethylpentane	Listed
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SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard

Canada

WHMIS (Canada) : Class B-2: Flammable liquid

State regulations

Massachusetts : The following components are listed: ISOOCTANE
New York : The following components are listed: 2,2,4-Trimethylpentane
New Jersey : The following components are listed: ISOOCTANE; 2,2,4-TRIMETHYLPENTANE
Pennsylvania : The following components are listed: PENTANE, 2,2,4-TRIMETHYL-
U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined

Section 16. Other information

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

Health : 1 **Flammability :** 3 **Physical hazards :** 0 **Personal protection Code :** H

National Fire Protection Association (U.S.A.)

Health : 1 **Flammability :** 3 **Instability/Reactivity :** 0 **Special :** -

History

Date of issue/Date of revision : 7/7/2016

Section 16. Other information

Date of previous issue	: 5/20/2016
Version	: 1.18
Prepared by	: Chem-Trend Regulatory Affairs Department.
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

☑ Indicates information that has changed from previously issued version.

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