SAFETY DATA SHEET

Flux WS 483



Section 1. Identification

GHS product identifier : Flux WS 483 : GHS017 Reference number Other means of : Not applicable

identification

Product type : Solid. [Paste]

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

Not applicable.

Supplier's details : AIM

9100 Henri Bourassa East

Montreal, QC H1E 2S4 (514) 494-2000

In the United States:

AIM

25 Kenney Drive Cranston, RI 02920 (800) CALL-AIM

In México

AIM Soldadura de México Circuito Interior Norte # 460 Parque Industrial Salvarcar Ciudad Juárez, Chih. (656) 630-0032

Emergency telephone number (with hours of

operation)

: INFOTRAC

North America: (800) 535-5053 International: (352) 323-3500

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 : SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1

GHS label elements

Hazard pictograms



Signal word : Warning

Hazard statements : Causes serious eye irritation.

Causes skin irritation.

May cause an allergic skin reaction.

Precautionary statements

Prevention

: Wear protective gloves. Wear eye or face protection. Avoid breathing dust. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Date of issue/Date of revision : 11/12/2020 : 3/4/2020 Version : 0.1 1/11 Date of previous issue

Section 2. Hazards identification

Response

: IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash 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

: Not applicable.

Disposal

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise

classified

: None known.

Section 3. Composition/information on ingredients

Substance/mixture

: Mixture

: Not applicable

Other means of identification

Ingredient name	%	CAS number
Poly(oxy-1,2-ethanediyl), α-(1-oxooctadecyl)-ω-hydroxy-	≥25 - ≤50	9004-99-3
2-methylpentane-2,4-diol	≥10 - ≤25	107-41-5
bis(2-(2-methoxyethoxy)ethyl) ether	≥10 - ≤25	143-24-8
Amine Decanoic Acid Salt	≤1	-

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.

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 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 adverse health effects persist or are severe. 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 with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. 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 adverse health effects persist or are severe. 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 : Causes serious eye irritation.

Date of issue/Date of revision : 11/12/2020 Date of previous issue : 3/4/2020 Version : 0.1 2/11

Section 4. First aid measures

Inhalation : No known significant effects or critical hazards.

Skin contact: Causes skin irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation : No specific data.

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. 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)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing

media

Unsuitable extinguishing

media

: Use an extinguishing agent suitable for the surrounding fire.

: None known.

Specific hazards arising from the chemical

Hazardous thermal decomposition products

: No specific fire or explosion hazard.

 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.

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. 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".

Date of issue/Date of revision : 11/12/2020 Date of previous issue : 3/4/2020 Version : 0.1 3/11

Section 6. Accidental release measures

Environmental precautions

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

: Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill

: Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. 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). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

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.

including any incompatibilities

Conditions for safe storage, : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. 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. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Poly(oxy-1,2-ethanediyl), α-(1-oxooctadecyl)-ω-hydroxy-	ACGIH TLV (United States, 3/2019). TWA: 10 mg/m³ 8 hours. Form: Inhalable fraction TWA: 3 mg/m³ 8 hours. Form: Respirable fraction
2-methylpentane-2,4-diol	OSHA PEL 1989 (United States, 3/1989). CEIL: 25 ppm CEIL: 125 mg/m³ NIOSH REL (United States, 10/2016). CEIL: 25 ppm CEIL: 125 mg/m³ ACGIH TLV (United States, 3/2019). STEL: 10 mg/m³ 15 minutes. Form: Inhalable fraction. Aerosol only. STEL: 50 ppm 15 minutes. Form: Vapor fraction TWA: 25 ppm 8 hours. Form: Vapor fraction
bis(2-(2-methoxyethoxy)ethyl) ether	None.

Date of issue/Date of revision : 11/12/2020 : 3/4/2020 Version: 0.1 Date of previous issue

Section 8. Exposure controls/personal protection

Amine Decanoic Acid Salt None

Appropriate engineering controls

: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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. Contaminated work clothing should not be allowed out of the workplace. 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.

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

Appearance

Physical state : Solid. [Paste]
Color : Yellowish. [Light]
Odor : Alcohol like. [Slight]
Odor threshold : Not available.

PH : Not available.

Melting point: Not available.Boiling point: Not available.Flash point: Not available.Evaporation rate: Not available.

Flammability (solid, gas) : Slightly flammable in the presence of the following materials or conditions: open flames,

sparks and static discharge.

Lower and upper explosive

(flammable) limits

: Not available.

Vapor pressure : Not available.

Date of issue/Date of revision : 11/12/2020 Date of previous issue : 3/4/2020 Version : 0.1 5/11

Section 9. Physical and chemical properties

Vapor density : Not available.

Relative density : Not available.

Solubility : Easily soluble in the following materials: cold water and hot water.

Solubility in water : Not available.

Partition coefficient: n- : Not available.

octanol/water

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Flow time (ISO 2431) : Not available.

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 : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products

: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Poly(oxy-1,2-ethanediyl), α- (1-oxooctadecyl)-ω-hydroxy-	LD50 Oral	Rat	>20 g/kg	-
2-methylpentane-2,4-diol	LD50 Oral LD50 Oral LD50 Oral LD50 Oral	Guinea pig Rabbit Rat Rat	2800 mg/kg 3200 mg/kg 3700 mg/kg 3700 mg/kg	- - -
bis(2-(2-methoxyethoxy)ethyl) ether	LD50 Dermal LD50 Oral	Rat Rat	>6900 mg/kg 3850 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Poly(oxy-1,2-ethanediyl), α- (1-oxooctadecyl)-ω-hydroxy-	Eyes - Mild irritant	Rabbit	-	24 hours 100 UI	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 UI	-
	Skin - Severe irritant	Rabbit	-	24 hours 500 UI	-
2-methylpentane-2,4-diol	Skin - Mild irritant	Rabbit	-	465 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
bis(2-(2-methoxyethoxy)ethyl) ether	Eyes - Mild irritant	Rabbit	-	500 mg	-

Sensitization

Section 11. Toxicological information

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Amine Decanoic Acid Salt	None.	4	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely

routes of exposure

: Routes of entry not anticipated: Dermal.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact: Causes skin irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation : No specific data.

Skin contact: Adverse symptoms may include the following:

irritation redness

Ingestion : No specific data.

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

Short term exposure

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Long term exposure

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Potential chronic health effects

Date of issue/Date of revision : 11/12/2020 Date of previous issue : 3/4/2020 Version : 0.1 7/11

Section 11. Toxicological information

Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to

very low levels.

Carcinogenicity : No known significant effects or critical hazards.Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	19346.73 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
2-methylpentane-2,4-diol	Acute EC50 2800000 μg/l Fresh water	Crustaceans - Ceriodaphnia reticulata - Larvae	48 hours
	Acute EC50 3200000 μg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 8000000 µg/l Marine water	Fish - Alburnus alburnus	96 hours
bis(2-(2-methoxyethoxy)ethyl) ether	EC10 2871 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	EC50 8996 mg/l	Aquatic plants - Pseudokirchneriella subcapitata	72 hours
	EC50 7467 mg/l LC50 >5000 mg/l	Daphnia Fish - Brachydanio rerio	48 hours 96 hours

Persistence and degradability

Conclusion/Summary: No additional remark.

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
2-methylpentane-2,4-diol bis(2-(2-methoxyethoxy)ethyl) ether	0.58 -0.84	-	low low

Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

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

Date of issue/Date of revision : 11/12/2020 Date of previous issue : 3/4/2020 Version : 0.1 8/11

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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-	-
Packing group	-	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.	No.
Additional information	-	-	-	-	-	-

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according : Not available. to Annex II of MARPOL and the IBC Code

Section 15. Regulatory information

U.S. Federal regulations : United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112

(b) Hazardous Air **Pollutants (HAPs)** : Not listed

Clean Air Act Section 602 Class I Substances

: Not listed

Clean Air Act Section 602 Class II Substances

: Not listed

DEA List I Chemicals

: Not listed

(Precursor Chemicals) **DEA List II Chemicals**

(Essential Chemicals)

: Not listed

Date of issue/Date of revision : 11/12/2020 : 3/4/2020 Version: 0.1 9/11 Date of previous issue

Section 15. Regulatory information

State regulations

Massachusetts : The following components are listed: 2-methylpentane-2,4-diol

New York : None of the components are listed.

New Jersey : The following components are listed: 2-methylpentane-2,4-diol

Pennsylvania : The following components are listed: 2-methylpentane-2,4-diol; oxydipropanol

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia : Not determined.
Canada : Not determined.
China : Not determined.
Europe : Not determined.

Japan : Japan inventory (ENCS): Not determined.

Japan inventory (ISHL): Not determined.

Malaysia : Not determined
New Zealand : Not determined.
Philippines : Not determined.
Republic of Korea : Not determined.
Taiwan : Not determined.
Turkey : Not determined.

Section 16. Other information

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



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



Section 16. Other information

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
SKIN IRRITATION - Category 2	Calculation method
EYE IRRITATION - Category 2A	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method

History

Date of printing : 11/12/2020 Date of issue/Date of : 11/12/2020

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Date of previous issue : 3/4/2020 Version : 0.1

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

References

-ACGIH, Threshold Limit Values, 1994-1995. -Canada Gazette Part II, Vol. 122, No. 2
Registration SOR/88-64 31 December, 1987 Hazardous Products Act "Ingredient
Disclosure List". -CFR29, OSHA's Permissible Exposure Limits, revision July, 1993. CFR29, part 1910.1200, Hazard Communication. -CHEMTOX database -Components'
manufacturer's Material Safety Data Sheet. -CRC Handbook of chemistry and physics,
67 th edition, CRC Press inc., Boca Raton, Florida. -CSST (Comission de Santé et
Sécurité au Travail), document #RT-12: Classification of Certain Chemical Substances.
-IATA, Dangerous Goods Regulations, 37th edition (January 1, 1996) -NFPA, Fire
Protection Guide to Chemical Hazards, 11th edition. -NIOSH, Pocket Guide to
Chemical Hazards, revision June 1994. Sigma-Alrich handbook of fine chemicals, 1998
-TSCA (Toxic Substance Contral Act), Chemical Substance Inventory List, 1985.

✓ Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

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.

Date of issue/Date of revision : 11/12/2020 Date of previous issue : 3/4/2020 Version : 0.1 11/11