Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 02.11.2022 Version number 1 Revision: 02.11.2022

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: DX5044

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

Sector of Use: Product supplied for professional use only

Application of the substance / the preparation:
DX5044 is a blend of fluorosurfactants intended exclusively for commercial use as a component for the manufacture of class B firefighting foam concentrates that are used on flammable liquids

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:
DYNAX CORPORATION
79 Westchester Ave. Pound Ridge NY 10576 USA.
Tel: +1 914-764-0202
Fax: 914 -764 - 0553.
info@dynaxcorp.com
www.dynaxcorp.com

Further information obtainable from:
B-Lands Consulting
5 Place Robert Schuman, BP 1516
38025 Grenoble, FRANCE
Tel: +33 476 295 869
Fax: +33 476 295 870
Email: clients@reachteam.eu
www.reachteam.eu

1.4 Emergency telephone number(s):

CHEMTREC: +1 703-741-5970 (24h)
Ireland - National Poisons Information Centre: 01 837 9964 or 01 809 2566 (healthcare professionals only).

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

STOT RE 2	H373 May cause damage to organs through prolonged or repeated exposure.
Aquatic Chronic 3	H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008:
The product is classified and labelled according to the CLP regulation.

Hazard pictograms:

GHS08

Signal word: Warning

Hazard-determining components of labelling:
2,2'-iminodiethanol

Hazard statements:
H373 May cause damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:
P260 Do not breathe dusts or mists.
P273 Avoid release to the environment.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 02.11.2022 Version number 1 Revision: 02.11.2022

Trade name: DX5044

P314 Get medical advice/attention if you feel unwell.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information: DX5044 contains per-or poly-fluoroalkyl substances (PFAS)

2.3 Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

Hazardous components:		
CAS: 112-34-5 EINECS: 203-961-6	2-(2-butoxyethoxy)ethanol Eye Irrit. 2, H319	2-<5%
CAS: 107-21-1 EINECS: 203-473-3	ethanediol STOT RE 2, H373; Acute Tox. 4, H302	1-<3%
CAS: 107-41-5 EINECS: 203-489-0	2-methylpentane-2,4-diol Skin Irrit. 2, H315; Eye Irrit. 2, H319	1-<3%
CAS: 111-42-2 EINECS: 203-868-0	2,2'-iminodiethanol STOT RE 2, H373; Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Irrit. 2, H315	1-<3%
CAS: 67-56-1 EINECS: 200-659-6	Methanol Flam. Liq. 2, H225; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; STOT SE 1, H370 Specific concentration limits: STOT SE 1; H370: C ≥ 10 % STOT SE 2; H371: 3 % ≤ C < 10 %	<1%

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:
Immediately remove any clothing soiled by the product.
Remove breathing equipment only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation: Move patient to fresh air, if symptoms persist consult a doctor.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed
No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.2 Special hazards arising from the substance or mixture
No further relevant information available.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 02.11.2022 Version number 1 Revision: 02.11.2022

Trade name: DX5044

5.3 Advice for firefighters

Protective equipment:
Do not enter fire area without proper personal protective equipment, including respiratory protection (EN137).

Additional information:
Thermal combustion may release carbon monoxide, carbon dioxide, nitrogen oxides (NOx) and hydrofluoric acid- possibly carbonyl fluoride.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Keep unprotected persons away.

6.2 Environmental precautions
Prevent entry to soil, sewage systems, water course and the environment.
Inform respective authorities in case of seepage into water course, soil, sewage systems or the environment.

6.3 Methods and material for containment and cleaning up Absorb with liquid-binding material.

6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling Keep away from heat and direct sunlight.

Information about fire - and explosion protection: No special measures required.

7.2 Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles:
Store in a cool, dry location in well sealed receptacles.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: None.

7.3 Specific end use(s): No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:	
111-42-2 2,2'-iminodiethanol	
OEL	Long-term value: 1* mg/m³, 0.2 ppm *Inhalable fraction and vapour
112-34-5 2-(2-butoxyethoxy)ethanol	
OEL	Short-term value: 101.2 mg/m³, 15 ppm Long-term value: 67.5 mg/m³, 10 ppm IOELV
107-21-1 ethanediol	
OEL	Short-term value: 40 mg/m³, 104 ppm Long-term value: 52 mg/m³, 20 ppm Sk, IOELV
107-41-5 2-methylpentane-2,4-diol	
OEL	Short-term value: 125 mg/m³, 25 ppm

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 02.11.2022 Version number 1 Revision: 02.11.2022

Trade name: DX5044

67-56-1 Methanol	
OEL	Long-term value: 260 mg/m³, 200 ppm Sk, IOELV

DNELs		
111-42-2 2,2'-iminodiethanol		
Inhalative	DNEL - Long-term exposure - systemic effects	0.75 mg/m³ (workers)

8.2 Exposure controls

Individual protection measures, such as personal protective equipment

General protective and hygienic measures: Wash hands before breaks and at the end of work.

Respiratory protection: Not required.

Hand protection

Protective gloves.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Eye/face protection

Safety glasses with side-shields (EN 166).

Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information	
Colour:	Amber.
Odour:	Mild.
Odour threshold:	Not determined.
Melting point/freezing point:	Not determined.
Boiling point or initial boiling point and boiling range	Not determined.
Flammability	Not applicable.
Lower and upper explosion limit	
Lower:	Not determined.
Upper:	Not determined.
Flash point:	Non-flammable
Ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
pH	6.5 - 7.5
Viscosity:	
Kinematic viscosity	Not determined.
VOC (EC):	
Dynamic:	700 - 1700 cP's
Solubility	
Water:	Soluble.
Partition coefficient n-octanol/water (log value)	Not determined.
Vapour pressure:	Not determined.
Density and/or relative density	
Density at 20 °C:	1.16 g/cm³
Relative density	Not determined.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 02.11.2022 Version number 1 Revision: 02.11.2022

Trade name: DX5044

Vapour density	Not determined.

9.2 Other information

Appearance:	
Form:	Liquid.
Auto-ignition temperature:	Product is not selfigniting.
Explosive properties:	Product does not present an explosion hazard.
Softening point/range	
Oxidising properties	Not determined.
Evaporation rate	Not determined.
Information with regard to physical hazard classes	
Explosives	Not applicable.
Flammable gases	Not applicable.
Aerosols	Not applicable.
Oxidising gases	Not applicable.
Gases under pressure	Not applicable.
Flammable liquids	Not applicable.
Flammable solids	Not applicable.
Self-reactive substances and mixtures	Not applicable.
Pyrophoric liquids	Not applicable.
Pyrophoric solids	Not applicable.
Self-heating substances and mixtures	Not applicable.
Substances and mixtures, which emit flammable gases in contact with water	Not applicable.
Oxidising liquids	Not applicable.
Oxidising solids	Not applicable.
Organic peroxides	Not applicable.
Corrosive to metals	Not applicable.
Desensitised explosives	Not applicable.

SECTION 10: Stability and reactivity

10.1 Reactivity No data available.

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:
No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions No dangerous reactions known.

10.4 Conditions to avoid No further relevant information available.

10.5 Incompatible materials No further relevant information available.

10.6 Hazardous decomposition products

Fumes: Carbon monoxide, carbon dioxide, nitrogen oxides (NOx), and hydrofluoric acid- possibly carbonyl fluoride.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values:		
Oral	LD50	>5,000 mg/kg (Rat) (EPA Testing Guidelines OPPTS Series 870.1100)

25498-49-1 Propanol, [2-(2-methoxymethylethoxy)methylethoxy]-		
Oral	LD50	3,400 mg/kg (Rat)
Dermal	LD50	15,440 mg/kg (rab)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 02.11.2022 Version number 1 Revision: 02.11.2022

Trade name: DX5044

112-34-5 2-(2-butoxyethoxy)ethanol		
Oral	LD50	5,660 mg/kg (Rat)
Dermal	LD50	4,000 mg/kg (Rabbit)
107-21-1 ethanediol		
Oral	LD50	7,712 mg/kg (Rat)
Dermal	LD50	3,500 mg/kg (Mouse)
Inhalative	LC50	2.5 mg/L (Rat)
107-41-5 2-methylpentane-2,4-diol		
Oral	LD50	3,700 mg/kg (Rat)
Dermal	LD50	8,560 mg/kg (Rabbit)
111-42-2 2,2'-iminodiethanol		
Oral	LD50	1,820 mg/kg (Rat)
67-56-1 Methanol		
Oral	LD50	5,628 mg/kg (Rat)
Dermal	LD50	17,100 mg/kg (Rabbit)
Inhalative	LC50/6h	43,680 mg/m³ air (Cat)
64-17-5 Ethanol		
Oral	LD50	7,060 mg/kg (Rat)
Inhalative	LC50/4h	20,000 mg/L (Rat)

Skin corrosion/irritation: Based on available data, the classification criteria are not met.
Serious eye damage/irritation: Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.
STOT-single exposure: Based on available data, the classification criteria are not met.
STOT-repeated exposure:
May cause damage to organs (blood, liver, kidneys) through prolonged or repeated exposure
Aspiration hazard: Based on available data, the classification criteria are not met.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties
None of the ingredients are listed.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:	
LC50/48h	385 mg/L (Daphnia Magna) (OECD 202)
EC50/48h	369 mg/L (Daphnia Magna) (OECD 202)
EC50/24h	>1,000 mg/L (Daphnia Magna) (OECD 202)
EC50/72h	63.5 mg/L (Algae) (OECD 201)
LOEC 72h	33 mg/L (Algae) (OECD 201)

12.2 Persistence and degradability
Fluorinated components of DX5044 are persistent and non-degradable.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil This family of products shows mobility in soil.

12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 02.11.2022 Version number 1 Revision: 02.11.2022

Trade name: DX5044

12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects

Additional environmental information:

General notes:
Water hazard class 1 (German Regulation) (Self-assessment): Slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation:
Do not allow product to reach water course, sewage systems, soil and the environment.
DX5044 contains PFAS. Small quantities of DX5044 may be collected on adsorbents which can then be disposed of. Collect all waste in suitable and labelled containers and disposed in accordance with official regulations.
Disposal of this product and all wastes containing this product must be performed using high temperature incineration at a minimum of 1000°C with a minimum residence time of 2 seconds.

Uncleaned packaging:
Recommendation:
Disposal must be made in accordance with official regulations.
Packaging that may not be cleansed must be disposed of in the same manner as the product.

SECTION 14: Transport information

14.1 UN number or ID number

ADR, ADN, IMDG, IATA Not applicable.

14.2 UN proper shipping name

ADR, ADN, IMDG, IATA Not applicable.

14.3 Transport hazard class(es)

ADR, ADN, IMDG, IATA
Class Not applicable.

14.4 Packing group

ADR, IMDG, IATA Not applicable.

14.5 Environmental hazards

Marine pollutant: No

14.6 Special precautions for user Not applicable.

14.7 Maritime transport in bulk according to IMO instruments Not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Directive 2012/18/EU
Named dangerous substances - ANNEX I None of the ingredients are listed.
REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 55, 69

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II
None of the ingredients are listed.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 02.11.2022 Version number 1 Revision: 02.11.2022

Trade name: DX5044

REGULATION (EU) 2019/1148

Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))
None of the ingredients are listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS
None of the ingredients are listed.

Regulation (EC) No 273/2004 on drug precursors
None of the ingredients are listed.

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors
None of the ingredients are listed.

15.2 Chemical safety assessment A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases
H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H370 Causes damage to organs.
H373 May cause damage to organs through prolonged or repeated exposure.
Date of previous version: 02.11.2022

Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
WEL: Workplace Exposure Limits
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT SE 1: Specific target organ toxicity (single exposure) – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3