Thermo Fisher SCIENTIFIC

SAFETY DATA SHEET

Creation Date 03-Feb-2017 Revision Date 06-Jan-2022 Revision Number 1

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Description: HitDiscover 40000. plated screening products in DMSO

Cat No.: HD40000D

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

Recommended Use Laboratory chemicals.

Sector of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC21 - Laboratory chemicals

Process categories PROC15 - Use as a laboratory reagent

Environmental release category ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company UK entity/business name

Maybridge

Thermo Fisher Scientific Bishop Meadow Rd

Loughborough, Leicestershire, Great Britain

LE11 5RG Tel: 01509 231166

Website: www.maybridge.com

EU entity/business name Acros Organics BVBA

Janssen Pharmaceuticalaan 3a

2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99 **CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Based on available data, the classification criteria are not met

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Health hazards

Based on available data, the classification criteria are not met

Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

2.2. Label elements

None required

Combustible liquid

2.3. Other hazards

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

Toxic to terrestrial vertebrates

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Component	CAS No	EC No	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Dimethyl sulfoxide	67-68-5	EEC No. 200-664-3	>97	-
Maybridge Screening Products Not Classified	N/A		2-3	-
Maybridge Screening Products Irritant	N/A	-	<0.1	Eye Irrit. 2 (H319) STOT SE 3 (H335) Skin Irrit. 2 (H315)
Maybridge Screening Products Harmful Irritant	N/A		<0.1	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)
Maybridge Screening Products Harmful(oral) Irritant	N/A		<0.05	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)
Maybridge Screening Products: Harmful	N/A		<0.05	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332)

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Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get

medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Get medical attention

immediately if symptoms occur.

Ingestion Clean mouth with water and drink afterwards plenty of water. Get medical attention if

symptoms occur.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur.

Self-Protection of the First Aider No special precautions required.

4.2. Most important symptoms and effects, both acute and delayed

Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness,

nausea and vomiting

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

Combustible material. Containers may explode when heated.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NOx), Sulfur oxides, Hydrogen halides, Formaldehyde.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges.

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6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Remove all sources of ignition.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

To maintain product quality. Protect from moisture. Keep at temperature not exceeding 25°C. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Store under an inert atmosphere.

Class 10

Technical Rules for Hazardous Substances (TRGS) 510 Storage Class (LGK) (Germany)

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s):

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

Component	Acute effects local	Acute effects	Chronic effects local	Chronic effects
-	(Dermal)	systemic (Dermal)	(Dermal)	systemic (Dermal)

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Dimethyl sulfoxide		DNEL = 200mg/kg
67-68-5 (>97)		bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)	
Dimethyl sulfoxide 67-68-5 (>97)			DNEL = 265mg/m ³	DNEL = 484mg/m ³	

Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water	Water Intermittent Microorganisms in		n Soil (Agriculture)	
		sediment		sewage treatment		
Dimethyl sulfoxide	PNEC = 17mg/L	PNEC = 13.4mg/kg		PNEC = 11mg/L	PNEC = 3.02mg/kg	
67-68-5 (>97)		sediment dw			soil dw	

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Dimethyl sulfoxide	PNEC = 1.7mg/L			PNEC = 0.7g/kg	
67-68-5 (>97)				food	

8.2. Exposure controls

Engineering Measures

None under normal use conditions. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye Protection Wear safety glasses with side shields (or goggles) (European standard - EN 166)

Hand Protection Protective gloves

	Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
- [Neoprene	> 480 minutes	0.45 mm	Level 6	As tested under EN374-3 Determination of
				EN 374	Resistance to Permeation by Chemicals
	Nitrile rubber	> 480 minutes	>0.2 mm		•

Skin and body protection Long sleeved clothing.

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection No protective equipment is needed under normal use conditions.

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits

are exceeded or if irritation or other symptoms are experienced

Recommended Filter type: Particle filter

Small scale/Laboratory use Maintain adequate ventilation

Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN

141

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Environmental exposure controls No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State Liquid

Appearance

Odor No information available **Odor Threshold** No data available **Melting Point/Range** No data available **Softening Point** No data available **Boiling Point/Range** 189 °C / 372.2 °F

Estimated

Flammability (liquid) Combustible liquid On basis of test data Flammability (solid,gas) Not applicable Liquid

Explosion Limits Lower 2.6 Vol% Upper 42 Vol%

Flash Point 87 °C / 188.6 °F Method - Estimated

301 °C / 573.8 °F **Autoignition Temperature** Estimated > 190°C **Decomposition Temperature Estimated**

No information available No data available **Viscosity**

Water Solubility Soluble

No information available Solubility in other solvents

Partition Coefficient (n-octanol/water)

Component log Pow Dimethyl sulfoxide -2.03

Vapor Pressure 0.55 mbar @ 20°C

Density / Specific Gravity 1.1

Bulk Density Liquid Not applicable **Vapor Density** 2.7 (Air = 1.0)

Particle characteristics Not applicable (liquid)

9.2. Other information

explosive air/vapour mixtures possible **Explosive Properties**

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity None known, based on information available

10.2. Chemical stability

Hygroscopic.

10.3. Possibility of hazardous reactions

Hazardous Polymerization No information available. **Hazardous Reactions** None under normal processing.

10.4. Conditions to avoid

Incompatible products. Excess heat. Keep away from open flames, hot surfaces and

Estimated

sources of ignition. Exposure to moist air or water.

10.5. Incompatible materials

Strong oxidizing agents.

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10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO₂). Nitrogen oxides (NOx). Sulfur oxides. Hydrogen halides. Formaldehyde.

SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information

(a) acute toxicity:

Based on available data, the classification criteria are not met Oral **Dermal** Based on available data, the classification criteria are not met Based on available data, the classification criteria are not met Inhalation

Toxicology data for the components

	Component	LD50 Oral	LD50 Dermal	LC50 Inhalation		
Γ	Dimethyl sulfoxide	LD50 = 28300 mg/kg (Rat)	LD50 = 40000 mg/kg (Rat)	LC50 > 5.33 mg/L (Rat) 4 h		
П						

(b) skin corrosion/irritation; Based on available data, the classification criteria are not met

(c) serious eye damage/irritation; Based on available data, the classification criteria are not met

(d) respiratory or skin sensitization;

Respiratory Based on available data, the classification criteria are not met Based on available data, the classification criteria are not met Skin

Based on available data, the classification criteria are not met (e) germ cell mutagenicity;

Based on available data, the classification criteria are not met (f) carcinogenicity;

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; Based on available data, the classification criteria are not met

(h) STOT-single exposure; Based on available data, the classification criteria are not met

(i) STOT-repeated exposure; Based on available data, the classification criteria are not met

Target Organs None known.

Based on available data, the classification criteria are not met (j) aspiration hazard;

Symptoms / effects, both acute and Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. delayed

11.2. Information on other hazards

Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any

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known or suspected endocrine disruptors.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity
Ecotoxicity effects

 Component
 Freshwater Fish
 Water Flea
 Freshwater Algae

 Dimethyl sulfoxide
 40 g/L LC50 96 h
 EC50 24h 7000 mg/L
 EC50 96h 12350 - 25500 mg/L

 33-37 g/L LC50 96 h
 33-37 g/L LC50 96 h
 EC50 24h 7000 mg/L
 EC50 96h 12350 - 25500 mg/L

Component	Microtox	M-Factor
Dimethyl sulfoxide	= 16000 mg/L EC50 Pseudomonas putida 16 h	
	= 32 g/L EC50 Tetrahymena pyriformis 24 h	
	= 77 mg/L EC50 Photobacterium phosphoreum 5	
	min	

12.2. Persistence and degradability

Persistence

Persistence is unlikely.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Dimethyl sulfoxide	-2.03	No data available

12.4. Mobility in soilThe product is water soluble, and may spread in water systems. Will likely be mobile in the

environment due to its water solubility. Highly mobile in soils

12.5. Results of PBT and vPvB

assessment

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent

and very bioaccumulative (vPvB).

12.6. Endocrine disrupting

properties

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

Persistent Organic Pollutant Ozone Depletion Potential This product does not contain any known or suspected substance This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused

Products

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to

ensure complete and accurate classification.

Contaminated Packaging Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use

empty containers.

European Waste Catalogue (EWC) According to the European Waste Catalog, Waste Codes are not product specific, but

application specific.

Other Information Waste codes should be assigned by the user based on the application for which the product

was used.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

ADR Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

<u>IATA</u> Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazardsNo hazards identified

14.6. Special precautions for user No special precautions required

14.7. Maritime transport in bulk

according to IMO instruments

SECTION 15: REGULATORY INFORMATION

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

Not applicable, packaged goods

International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Dimethyl sulfoxide	67-68-5	200-664-3	-	-	Х	Χ	KE-32367	Х	Х
Maybridge Screening Products Not Classified	N/A	-	-	-	-	-	-	-	-
Maybridge Screening Products Irritant	N/A	-	-	-	-	-	-	-	-
Maybridge Screening Products Harmful Irritant	N/A	-	-	-	-	-	-	-	-
Maybridge Screening Products Harmful(oral) Irritant	N/A	-	-	-	-	-	-	-	-
Maybridge Screening Products: Harmful	N/A	-	=	-	-	-	-	-	-

Component	CAS No	TSCA	TSCA Inventory	DSL	NDSL	AICS	NZIoC	PICCS
-			notification -					

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			Active-Inactive					
Dimethyl sulfoxide	67-68-5	Х	ACTIVE	Х	-	Х	Х	Χ
Maybridge Screening Products Not Classified	N/A	-	-	-	-	-	-	-
Maybridge Screening Products Irritant	N/A	-	-	-	-	-	-	-
Maybridge Screening Products Harmful Irritant	N/A	-	-	-	-	-	-	-
Maybridge Screening Products Harmful(oral) Irritant	N/A	-	-	-	-	-	-	1
Maybridge Screening Products: Harmful	N/A	-	-	-	-	-	-	-

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

Authorisation/Restrictions according to EU REACH

Γ	Component	REACH (1907/2006) - Annex XIV -	REACH (1907/2006) - Annex XVII -	REACH Regulation (EC
		Substances Subject to	Restrictions on Certain Dangerous	1907/2006) article 59 - Candidate
		Authorization	Substances	List of Substances of Very High
L				Concern (SVHC)
Г	Dimethyl sulfoxide	=	Use restricted. See item 75.	-
L	•		(see link for restriction details)	

https://echa.europa.eu/substances-restricted-under-reach

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Dimethyl sulfoxide	67-68-5	Not applicable	Not applicable
Maybridge Screening Products Not Classified	N/A	Not applicable	Not applicable
Maybridge Screening Products Irritant	N/A	Not applicable	Not applicable
Maybridge Screening Products Harmful Irritant	N/A	Not applicable	Not applicable
Maybridge Screening Products Harmful(oral) Irritant	N/A	Not applicable	Not applicable
Maybridge Screening Products: Harmful	N/A	Not applicable	Not applicable

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification Water endangering class = 1 (self classification)

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Dimethyl sulfoxide	WGK1	

Component	France - INRS (Tables of occupational diseases)	
Dimethyl sulfoxide	Tableaux des maladies professionnelles (TMP) - RG 84	

15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed

H312 - Harmful in contact with skin

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H332 - Harmful if inhaled

H335 - May cause respiratory irritation

Legend

CAS - Chemical Abstracts Service TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - Canadian Domestic Substances List/Non-Domestic

Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances **KECL** - Korean Existing and Evaluated Chemical Substances

WEL - Workplace Exposure Limit TWA - Time Weighted Average ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

IARC - International Agency for Research on Cancer

Predicted No Effect Concentration (PNEC)

NZIoC - New Zealand Inventory of Chemicals

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

LD50 - Lethal Dose 50%

Substances List

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of

Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime

Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

ICAO/IATA - International Civil Aviation Organization/International Air **Transport Association**

MARPOL - International Convention for the Prevention of Pollution from

Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards On basis of test data **Health Hazards** Calculation method Calculation method **Environmental hazards**

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Creation Date 03-Feb-2017 **Revision Date** 06-Jan-2022 **Revision Summary** Not applicable.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No

Revision Date 06-Jan-2022

1907/2006

Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

End of Safety Data Sheet