

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

BRENNSOL D 80 / IBC 800 KG

Version 4.0

Print Date 21.03.2018

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

1.1. Product identifier

Trade name : BRENNSOL D 80 / IBC 800 KG
Substance name : Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics
EC-No. : 926-141-6
EU REACH-Reg. No. : 01-2119456620-43-xxxx

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

Use of the Substance/Mixture : Used as:, Solvent, Chemical industry in general, Identified use: See table in front of appendix for a complete overview of identified uses.
Uses advised against : At this moment we have not identified any uses advised against

1.3. Details of the supplier of the safety data sheet

Company : Brenntag Nordic AB
Koksgatan 18
SE 20211 Malmoe
Telephone : +46 (0)40-28 73 00
Telefax : +46 (0)40-93 7015
E-mail address : SDS.SE@brenntag-nordic.com
Responsible/issuing person : Environment & Quality

1.4. Emergency telephone number

Emergency telephone number : In case of personal injury call:
Denmark: 82 12 12 12 Giftlinien, Bispebjerg Hospital
Finland: Poison Information Centre: (09) 471 977 (direct) or (09) 47 11 (exchange), open 24h/day
Norway: 22 59 13 00 Giftinformasjonen (døgnåpent)
Sweden: +46-8-331231 Giftinformationscentralen (24 hour service)
Outside these countries: Please call your local emergency services

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

BRENNSOL D 80 / IBC 800 KG**Classification according to Regulation (EC) No 1272/2008**


REGULATION (EC) No 1272/2008			
Hazard class	Hazard category	Target Organs	Hazard statements
Aspiration hazard	Category 1	---	H304

For the full text of the H-Statements mentioned in this Section, see Section 16.

Most important adverse effects

- Human Health : Vapours may cause irritation, headache, dizziness and may have narcotic effects and other central nervous effects. Repeated exposure may cause skin dryness or cracking. Splash in the eyes may cause discomfort. Already after ingestion or vomiting of small quantities may cause cough and possibly difficulty in breathing. Chemical pneumonia may occur in the course of a day.
- Physical and chemical hazards : Flammable. Heating may produce combustible vapour which can form explosive mixture with air., Vapours are heavier than air and may spread along floors.
- Potential environmental effects : According to available data, this product is not harmful to the environment.

2.2. Label elements**Labelling according to Regulation (EC) No 1272/2008**

- Hazard symbols : 
- Signal word : Danger
- Hazard statements : H304 May be fatal if swallowed and enters airways.
- Precautionary statements
- Prevention : P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- Response : P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

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		P331 P370 + P378	Do NOT induce vomiting. In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO ₂) to extinguish.
Storage	:	P405 P403 + P235	Store locked up. Store in a well-ventilated place. Keep cool.
Disposal	:	P501	Dispose of contents/ container in accordance with the local/regional/international regulations.

Additional Labelling:

EUH066 Repeated exposure may cause skin dryness or cracking.

Hazardous components which must be listed on the label:

- Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics

2.3. Other hazards

For Results of PBT and vPvB assessment see section 12.5.

SECTION 3: Composition/information on ingredients

3.1. Substances

Hazardous components	Amount [%]	Classification (REGULATION (EC) No 1272/2008)	
		Hazard class / Hazard category	Hazard statements
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics			
EC-No. : 926-141-6	<= 100	Asp. Tox.1	H304
EU REACH- : 01-2119456620-43-xxxx			
Reg. No.			

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	: Take off all contaminated clothing immediately. Wash contaminated clothing before re-use.
If inhaled	: In case of accident by inhalation: remove casualty to fresh air and keep at rest. If breathing is irregular or stopped, administer artificial respiration. If unconscious, place in recovery position and seek medical advice.

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In case of skin contact	: Wash off immediately with plenty of water. If skin irritation persists, call a physician.
In case of eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. If eye irritation persists, consult a specialist.
If swallowed	: Rinse mouth with water. Do NOT induce vomiting. Call a physician immediately.

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

Symptoms	: See Section 11 for more detailed information on health effects and symptoms.
Effects	: May be fatal if swallowed and enters airways. Repeated exposure may cause skin dryness or cracking. See Section 11 for more detailed information on health effects and symptoms.

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

Treatment	: Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, foam, dry powder or CO ₂ .
Unsuitable extinguishing media	: High volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting	: Hazardous decomposition products, Combustible material.
Hazardous combustion products	: Carbon monoxide, Carbon dioxide (CO ₂), Fumes, Smoke

5.3. Advice for firefighters

Special protective equipment for firefighters	: In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit)
Further advice	: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Cool closed containers exposed to fire with water spray.

SECTION 6: Accidental release measures

BRENNSOL D 80 / IBC 800 KG**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak.

6.2. Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

6.3. Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Ensure adequate ventilation. Large spills should be collected mechanically (remove by pumping) for disposal. Keep in suitable, closed containers for disposal.

Further information : Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on personal protective equipment.
See Section 13 for waste treatment information.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Keep container tightly closed. Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately. Wash contaminated clothing before re-use.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container. Take precautionary measures against static discharges. Keep away from heat and sources of ignition.

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Advice on protection against fire and explosion	: Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Ensure all equipment is electrically grounded before beginning transfer operations. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another.
Further information on storage conditions	: Keep tightly closed in a dry and cool place. Keep in a well-ventilated place.
Advice on common storage	: Keep away from food, drink and animal feedingstuffs. Incompatible with oxidizing agents.
Suitable packaging materials	: Carbon steel, Stainless steel, Polyester, polyethylene containers, polypropylene, Teflon
Unsuitable packaging materials	: , natural rubber, Butyl rubber, Ethylene-propylene-diene monomer (EPDM), polystyrene

7.3. Specific end use(s)

Specific use(s)	: Identified use: See table in front of appendix for a complete overview of identified uses.
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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Component:

Other Occupational Exposure Limit Values

Sweden. OEL, Time Weighted Average (TWA):
350 mg/m³

Sweden. OEL, Short Term Exposure Limit (STEL):
500 mg/m³

8.2. Exposure controls

Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

Personal protective equipment

Respiratory protection

Advice	: If ventilation is insufficient, suitable respiratory protection must be provided Required, if exposure limit is exceeded (e.g. OEL).
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In the case of vapour formation use a respirator with an approved filter.
Respiratory protection complying with EN 141.
Filter type A for organic gases and vapors.

Filter Type : Type A

Hand protection

Advice : Protective gloves complying with EN 374.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Protective gloves should be replaced at first signs of wear.

Material : Nitrile rubber
Break through time : > 480 min
Glove thickness : > 0,38 mm

Eye protection

Advice : Tightly fitting safety goggles

Skin and body protection

Advice : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Wear appropriate chemical resistant clothing and boots.

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form : clear liquid

Colour : colourless

Odour : slight

Odour Threshold : no data available

pH : no data available

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pour point	:	< -20 °C (ASTM D5950)
Boiling point/boiling range	:	180 - 270 °C (ASTM D 86)
Flash point	:	> 70 °C (Method: ASTM D 93)
Evaporation rate	:	no data available
Flammability (solid, gas)	:	no data available
Upper explosion limit	:	7,0 %(V) (calculated)
Lower explosion limit	:	0,6 %(V) (calculated)
Vapour pressure	:	< 1 hPa (25 °C)
Relative vapour density	:	> 1 (estimated)(Air = 1.0)
Relative density	:	0,771 - 0,871 (15 °C) ((calculated))
Density	:	0,77 - 0,87 g/cm ³ (15 °C) (ISO 12185)
Water solubility	:	negligible
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	> 200 °C
Thermal decomposition	:	no data available
Viscosity, dynamic	:	no data available
Explosivity	:	no data available
Oxidizing properties	:	no data available

9.2. Other information

No further information available.

SECTION 10: Stability and reactivity**10.1. Reactivity**

Advice : No decomposition if stored and applied as directed.

10.2. Chemical stability

Advice : Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

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10.4. Conditions to avoid

Conditions to avoid : Keep away from heat and sources of ignition. Heat, flames and sparks. Take precautionary measures against static discharges.

10.5. Incompatible materials

Materials to avoid : Incompatible with oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products : Carbon oxides, Smoke, Fumes

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Data for the product

Acute toxicity

Oral

Already after ingestion or vomiting of small quantities may cause cough and possibly difficulty in breathing. Chemical pneumonia may occur in the course of a day.

Inhalation

Vapours may cause irritation, headache, dizziness and may have narcotic effects and other central nervous effects.

Dermal

LD50 : > 5000 mg/kg (Rabbit) (OECD Test Guideline 402)

Irritation

Skin

Result : Degreases the skin which may cause dry and rough. Prolonged or repeated skin contact may result in dermatitis.

Eyes

Result : Splashes in eyes may cause strong pain. Vapour acts irritant.

Sensitisation

Result : (OECD Test Guideline 406) Not believed to be sensitizing to skin.

CMR effects

CMR Properties

Mutagenicity : Did not show mutagenic effects on germ cells

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Teratogenicity : It is not considered teratogenic.

Reproductive toxicity : Not expected to impair fertility.

Carcinogenicity

(OECD Test Guideline 453) Not expected to be carcinogenic.

Specific Target Organ Toxicity
Single exposure

Remarks : The substance or mixture is not classified as specific target organ toxicant, single exposure.

Repeated exposure

Remarks : Not expected to cause organ damage from prolonged or repeated exposure.

Other toxic properties
Aspiration hazard

May be fatal if swallowed and enters airways.,

Component: Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics

Acute toxicity
Oral

LD50 : > 5000 mg/kg (Rat)

Inhalation

LC50 : > 20 mg/l (Rat; 4 h)

Dermal

LD50 : > 5000 mg/kg (Rat)

CMR effects
CMR Properties

Carcinogenicity : It is not considered carcinogenic.

Mutagenicity : It is not considered mutagenic.

Teratogenicity : It is not considered teratogenic.

Reproductive toxicity : It is not considered toxic for reproduction.

Specific Target Organ Toxicity

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Single exposure

Remarks : no data available

Repeated exposure

Skin contact : Degreases the skin which may cause dry and rough. Prolonged or repeated skin contact may result in dermatitis.

Other toxic properties
Aspiration hazard

May be fatal if swallowed and enters airways.,

SECTION 12: Ecological information
12.1. Toxicity
Data for the product
Acute toxicity
Fish

LLO : 1000 mg/l (Oncorhynchus mykiss; 96 h)

Toxicity to daphnia and other aquatic invertebrates

ELO : 1000 mg/l (Daphnia magna; 48 h)

algae

ELO : 1000 mg/l (Pseudokirchneriella subcapitata (microalgae); 72 h)

12.2. Persistence and degradability
Data for the product
Persistence and degradability
Biodegradability

Result : 69 % (Exposure Time: 28 d) Readily biodegradable.

Component: Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics

Persistence and degradability
Persistence

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Result : Oxidises rapidly by photo-chemical reactions in air.

Biodegradability

Result : Readily biodegradable.

12.3. Bioaccumulative potential

Component:	Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics
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Bioaccumulation

Result : log Kow 6 - 8,2
: Bioaccumulation is expected.

12.4. Mobility in soil

Component:	Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics
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Mobility

Water : The product is insoluble and floats on water.
Soil : Adsorption to solid soil phase can be expected.

12.5. Results of PBT and vPvB assessment

Data for the product

Results of PBT and vPvB assessment

Result : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Component:	Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics
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Results of PBT and vPvB assessment

Result : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6. Other adverse effects

Data for the product

BRENNSOL D 80 / IBC 800 KG**Additional ecological information**

Result : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

- Product : Eliminate waste in conditions authorized by the regulations.
Store waste in containers provided for this purpose. Do not dump in drains, water sheets or the ground.
- Contaminated packaging : Dispose of contaminated packaging in the same way as the product. In accordance with local and national regulations.
- European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

SECTION 14: Transport information

Not dangerous goods for ADR, RID, IMDG and IATA.

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packaging group

Not applicable.

14.5. Environmental hazards

Not applicable.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IMDG : Not applicable.

BRENNSOL D 80 / IBC 800 KG**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Data for the product**

Nordic Combustible liquids danger class	:	Fire class 3 : Flashpoint 55 - <= 100 °C
Other regulations	:	Exposure limits in accordance to local regulations In accordance to national regulations about "handling of liquids with flashpoint below 100°C".

Component: Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics

EU. Directive 2012/18/EU (SEVESO III) Annex I : ; The substance/mixture does not fall under this legislation.

15.2. Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information**Full text of H-Statements referred to under sections 2 and 3.**

H304 May be fatal if swallowed and enters airways.

Abbreviations and Acronyms

BCF	bioconcentration factor
BOD	biochemical oxygen demand
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	carcinogenic, mutagenic or toxic to reproduction
COD	chemical oxygen demand
DNEL	derived no-effect level
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
LC50	median lethal concentration
LOAEC	lowest observed adverse effect concentration

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LOAEL	lowest observed adverse effect level
LOEL	lowest observed effect level
NLP	no-longer polymer
NOAEC	no observed adverse effect concentration
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
OECD	Organisation for Economic Cooperation and Development
OEL	occupational exposure limit
PBT	persistent, bioaccumulative and toxic
PNEC	predicted no-effect concentration
STOT	specific target organ toxicity
SVHC	substance of very high concern
UVCB	substance of unknown or variable composition, complex reaction products or biological materials
vPvB	very persistent and very bioaccumulative

Further information

Key literature references and sources for data : Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.

Methods used for product classification : The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.

Hints for trainings : The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.

Other information : The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship.

The information contained in this Safety Data Sheet 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.

|| Indicates updated section.

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No.	Short title	Main User Group (SU)	Sector of Use (SU)	Product Category (PC)	Process Category (PROC)	Environmental Release Category (ERC)	Article Category (AC)	Specified
1	Manufacture of substance	3	8, 9	NA	1, 2, 3, 4, 8a, 8b, 15	1, 4	NA	ES17122
2	Distribution of substance	3	8, 9	NA	1, 2, 3, 4, 8a, 8b, 9, 15	1, 2, 3, 4, 5, 6a, 6b, 6c, 6d, 7	NA	ES17130
3	Formulation & (re)packing of substances and mixtures	3	NA	NA	1, 2, 3, 4, 5, 8a, 8b, 9, 14, 15	2	NA	ES17137
4	Use in rubber production and processing	3	8, 9, 11, 12, 13	NA	1, 2, 3, 4, 5, 6, 7, 8a, 8b, 9, 13, 14, 15, 21	1, 4, 6d, 7	NA	ES17155
5	Use in polymer processing	3	NA	NA	1, 2, 3, 4, 5, 6, 8a, 8b, 9, 13, 14, 21	4	NA	ES17157
6	Use in polymer processing	22	NA	NA	1, 2, 6, 8a, 8b, 14, 21	8a, 8d	NA	ES17192
7	Use in coatings	3	NA	NA	1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 14, 15	4	NA	ES17139
8	Use in coatings	21	NA	1, 4, 8, 9a, 9b, 9c, 15, 18, 23, 24, 31, 34	NA	8a, 8d	NA	ES17202
9	Use in coatings	22	NA	NA	1, 2, 3, 4, 5, 8a, 8b, 10, 11, 13, 15, 19	8a, 8d	NA	ES17172
10	Use in cleaning agents	21	NA	3, 4, 8, 9a, 9b, 9c, 24, 35, 38	NA	8a, 8d	NA	ES17207
11	Use in cleaning agents	22	NA	NA	1, 2, 3, 4, 8a, 8b, 10, 11, 13, 19	8a, 8d	NA	ES17174
12	Use in binder and release agents	3	NA	NA	1, 2, 3, 4, 6, 7, 8a, 8b, 10, 13, 14	4	NA	ES17149
13	Use in binder and release agents	22	NA	NA	1, 2, 3, 4, 6, 8a, 8b, 10, 11, 14	8a, 8d	NA	ES17180
14	Use in fuel	3	NA	NA	1, 2, 3, 8a, 8b, 16	7	NA	ES17151
15	Use in fuel	21	NA	13	NA	9a, 9b	NA	ES17213
16	Use in fuel	22	NA	NA	1, 2, 3, 8a, 8b, 16	9a, 9b	NA	ES17296
17	Use as lubricants	3	NA	NA	1, 2, 3, 4, 7, 8a, 8b, 9, 10, 13,	4, 7	NA	ES17143

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					17, 18			
18	Use as lubricants	21	NA	1, 24, 31	NA	8a, 8d, 9a, 9b	NA	ES17209
19	Use as lubricants	22	NA	NA	1, 2, 3, 4, 8a, 8b, 9, 10, 11, 13, 17, 18, 20	8a, 8d, 9a, 9b	NA	ES17176
20	Use as Functional Fluids	3	NA	NA	1, 2, 3, 4, 8a, 8b, 9	7	NA	ES17164
21	Use as Functional Fluids	21	NA	16, 17	NA	9a, 9b	NA	ES17215
22	Use as Functional Fluids	22	NA	NA	1, 2, 3, 8a, 9, 20	9a, 9b	NA	ES17182
23	Use in laboratories	3	NA	NA	15	2, 4	NA	ES17153
24	Use in laboratories	22	NA	NA	15	8a, 9a	NA	ES17188
25	Use in metal working fluids / rolling oils	3	NA	NA	1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 17	4	NA	ES17145
26	Use in metal working fluids / rolling oils	22	NA	NA	1, 2, 3, 5, 8a, 8b, 9, 10, 11, 13, 17	8a, 8d	NA	ES17178
27	Use in de-icing and anti-icing applications	22	NA	NA	1, 2, 8a, 8b, 11	8a, 8d	NA	ES17184
28	Use in road and construction applications	22	NA	NA	1, 2, 8a, 8b, 9, 10, 11, 13	8d, 8f	NA	ES17186
29	Use as water treatment chemicals	3	NA	NA	1, 2, 3, 4, 8a, 8b, 13	3, 4	NA	ES17159
30	Use as water treatment chemicals	22	NA	NA	1, 2, 3, 4, 8a, 8b, 13	8f	NA	ES17200
31	Use in explosives	22	NA	NA	1, 2, 3, 5, 8a, 8b	8e	NA	ES17190
32	Other consumer uses	21	NA	28, 39	NA	8a, 8d	NA	ES17217

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1. Short title of Exposure Scenario 1: Manufacture of substance

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU8: Manufacture of bulk, large scale chemicals (including petroleum products) SU9: Manufacture of fine chemicals
Process categories	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent
Environmental Release Categories	ERC1: Manufacture of substances ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
Activity	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.

2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC4

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the

BRENNSOL D 80 / IBC 800 KG**Exposure Scenario**

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 2: Distribution of substance

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU8: Manufacture of bulk, large scale chemicals (including petroleum products) SU9: Manufacture of fine chemicals
Process categories	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC15: Use as laboratory reagent
Environmental Release Categories	ERC1: Manufacture of substances ERC2: Formulation of preparations ERC3: Formulation in materials ERC4: Industrial use of processing aids in processes and products, not becoming part of articles ERC5: Industrial use resulting in inclusion into or onto a matrix ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates) ERC6b: Industrial use of reactive processing aids ERC6c: Industrial use of monomers for manufacture of thermoplastics ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers ERC7: Industrial use of substances in closed systems
Activity	Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.

2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC2, ERC3, ERC4, ERC5, ERC6a, ERC6b, ERC6c, ERC6d, ERC7

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures For substances classified as H304, the following measures need to be	

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implemented to control the aspiration hazard
Do not ingest.
If swallowed then seek immediate medical attention
Do NOT induce vomiting.
A DNEL cannot be derived

3. Exposure estimation and reference to its source**Workers**

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 3: Formulation & (re)packing of substances and mixtures

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation</p> <p>PROC15: Use as laboratory reagent</p>
Environmental Release Categories	ERC2: Formulation of preparations
Activity	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

2.1 Contributing scenario controlling environmental exposure for: ERC2

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

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Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.
Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 4: Use in rubber production and processing

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sectors of end-use	SU8: Manufacture of bulk, large scale chemicals (including petroleum products) SU9: Manufacture of fine chemicals SU11: Manufacture of rubber products SU12: Manufacture of plastics products, including compounding and conversion SU13: Manufacture of other non-metallic mineral products, e.g. plasters, cement
Process categories	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC6: Calendering operations PROC7: Industrial spraying PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC13: Treatment of articles by dipping and pouring PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation PROC15: Use as laboratory reagent PROC21: Low energy manipulation of substances bound in materials and/ or articles
Environmental Release Categories	ERC1: Manufacture of substances ERC4: Industrial use of processing aids in processes and products, not becoming part of articles ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers ERC7: Industrial use of substances in closed systems
Activity	Manufacture of tyres and general rubber articles, including processing of raw (uncured) rubber, handling and mixing of rubber additives, vulcanising, cooling and finishing.

2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC4, ERC6d, ERC7

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC13, PROC14, PROC15, PROC21

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is	

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vomited following ingestion
Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures
For substances classified as H304, the following measures need to be implemented to control the aspiration hazard
Do not ingest.
If swallowed then seek immediate medical attention
Do NOT induce vomiting.
A DNEL cannot be derived

3. Exposure estimation and reference to its source**Workers**

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Available hazard data do not support the need for a DNEL to be established for other health effects.
Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 5: Use in polymer processing

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)</p> <p>PROC6: Calendaring operations</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>PROC13: Treatment of articles by dipping and pouring</p> <p>PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation</p> <p>PROC21: Low energy manipulation of substances bound in materials and/ or articles</p>
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
Activity	Processing of formulated polymers including material transfers, additives handling (e.g. pigments, stabilisers, fillers, plasticisers, etc.), moulding, curing and forming activities, material re-works, storage and associated maintenance

2.1 Contributing scenario controlling environmental exposure for: ERC4

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC13, PROC14, PROC21

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

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Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 6: Use in polymer processing

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC6: Calendaring operations</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation</p> <p>PROC21: Low energy manipulation of substances bound in materials and/ or articles</p>
Environmental Release Categories	<p>ERC8a: Wide dispersive indoor use of processing aids in open systems</p> <p>ERC8d: Wide dispersive outdoor use of processing aids in open systems</p>
Activity	Processing of formulated polymers including material transfers, moulding and forming activities, material re-works and associated maintenance

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC6, PROC8a, PROC8b, PROC14, PROC21

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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Available hazard data do not support the need for a DNEL to be established for other health effects.
Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 7: Use in coatings

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)</p> <p>PROC7: Industrial spraying</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>PROC10: Roller application or brushing</p> <p>PROC13: Treatment of articles by dipping and pouring</p> <p>PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation</p> <p>PROC15: Use as laboratory reagent</p>
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
Activity	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.

2.1 Contributing scenario controlling environmental exposure for: ERC4

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

BRENNSOL D 80 / IBC 800 KG**3. Exposure estimation and reference to its source****Workers**

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 8: Use in coatings

Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)
Chemical product category	PC1: Adhesives, sealants PC4: Anti-Freeze and de-icing products PC8: Biocidal products (e.g. Disinfectants, pest control) PC9a: Coatings and paints, thinners, paint removers PC9b: Fillers, putties, plasters, modelling clay PC9c: Finger paints PC15: Non-metal-surface treatment products PC18: Ink and toners PC23: Leather treatment products PC24: Lubricants, greases, release products PC31: Polishes and wax blends PC34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems
Activity	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling consumer exposure for: PC1, PC4, PC8, PC9a, PC9b, PC9c, PC15, PC18, PC23, PC24, PC31, PC34,

Product characteristics	Physical Form (at time of use)	Liquefied gas
	Consumer Measures	The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion A DNEL cannot be derived Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures For substances classified as H304, the following measures need to be implemented to control the aspiration hazard Do NOT induce vomiting. If swallowed then seek immediate medical attention Keep lamps filled with this liquid out of the reach of children.
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)		

3. Exposure estimation and reference to its source

Consumers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.
Risk management measures are based on qualitative risk characterisation.

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1. Short title of Exposure Scenario 9: Use in coatings

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC10: Roller application or brushing</p> <p>PROC11: Non industrial spraying</p> <p>PROC13: Treatment of articles by dipping and pouring</p> <p>PROC15: Use as laboratory reagent</p> <p>PROC19: Hand-mixing with intimate contact and only PPE available</p>
Environmental Release Categories	<p>ERC8a: Wide dispersive indoor use of processing aids in open systems</p> <p>ERC8d: Wide dispersive outdoor use of processing aids in open systems</p>
Activity	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

BRENN SOL D 80 / IBC 800 KG**Workers**

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 10: Use in cleaning agents

Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)
Chemical product category	PC3: Air care products PC4: Anti-Freeze and de-icing products PC8: Biocidal products (e.g. Disinfectants, pest control) PC9a: Coatings and paints, thinners, paint removers PC9b: Fillers, putties, plasters, modelling clay PC9c: Finger paints PC24: Lubricants, greases, release products PC35: Washing and cleaning products PC38: Welding and soldering products (with flux coatings or flux cores.), flux products
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems
Activity	Covers general exposures to consumers arising from the use of household products sold as washing and cleaning products, aerosols, coatings, de-icers, lubricants and air care products.

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling consumer exposure for: PC3, PC4, PC8, PC9a, PC9b, PC9c, PC24, PC35, PC38

Product characteristics	Physical Form (at time of use)	Liquefied gas
	Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures

3. Exposure estimation and reference to its source

Consumers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to

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at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.
Risk management measures are based on qualitative risk characterisation.

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1. Short title of Exposure Scenario 11: Use in cleaning agents

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC10: Roller application or brushing</p> <p>PROC11: Non industrial spraying</p> <p>PROC13: Treatment of articles by dipping and pouring</p> <p>PROC19: Hand-mixing with intimate contact and only PPE available</p>
Environmental Release Categories	<p>ERC8a: Wide dispersive indoor use of processing aids in open systems</p> <p>ERC8d: Wide dispersive outdoor use of processing aids in open systems</p>
Activity	Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping automated and by hand).

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC19

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the

BRENNSOL D 80 / IBC 800 KG**Exposure Scenario**

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

BRENNSOL D 80 / IBC 800 KG

1. Short title of Exposure Scenario 12: Use in binder and release agents

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC6: Calendering operations</p> <p>PROC7: Industrial spraying</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC10: Roller application or brushing</p> <p>PROC13: Treatment of articles by dipping and pouring</p> <p>PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation</p>
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
Activity	Covers the use as binders and release agents including material transfers, mixing, application (including spraying and brushing), mould forming and casting, and handling of waste.

2.1 Contributing scenario controlling environmental exposure for: ERC4

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC6, PROC7, PROC8a, PROC8b, PROC10, PROC13, PROC14

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

BRENNSOL D 80 / IBC 800 KG**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

BRENNSOL D 80 / IBC 800 KG

1. Short title of Exposure Scenario 13: Use in binder and release agents

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC6: Calendering operations</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC10: Roller application or brushing</p> <p>PROC11: Non industrial spraying</p> <p>PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation</p>
Environmental Release Categories	<p>ERC8a: Wide dispersive indoor use of processing aids in open systems</p> <p>ERC8d: Wide dispersive outdoor use of processing aids in open systems</p>
Activity	Covers the use as binders and release agents including material transfers, mixing, application by spraying, brushing, and handling of waste.

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC6, PROC8a, PROC8b, PROC10, PROC11, PROC14

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the

BRENNSOL D 80 / IBC 800 KG**Exposure Scenario**

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

BRENNSOL D 80 / IBC 800 KG

1. Short title of Exposure Scenario 14: Use in fuel

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC16: Using material as fuel sources, limited exposure to unburned product to be expected</p>
Environmental Release Categories	ERC7: Industrial use of substances in closed systems
Activity	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

2.1 Contributing scenario controlling environmental exposure for: ERC7

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

BRENNSOL D 80 / IBC 800 KG

Available hazard data do not support the need for a DNEL to be established for other health effects.
Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

BRENNSOL D 80 / IBC 800 KG

1. Short title of Exposure Scenario 15: Use in fuel

Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)
Chemical product category	PC13: Fuels
Environmental Release Categories	ERC9a: Wide dispersive indoor use of substances in closed systems ERC9b: Wide dispersive outdoor use of substances in closed systems
Activity	Covers consumer uses of automotive fuels only.

2.1 Contributing scenario controlling environmental exposure for: ERC9a, ERC9b

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling consumer exposure for: PC13

Product characteristics	Physical Form (at time of use)	Liquefied gas
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>A DNEL cannot be derived</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>Keep lamps filled with this liquid out of the reach of children.</p>

3. Exposure estimation and reference to its source

Consumers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

BRENNSOL D 80 / IBC 800 KG

1. Short title of Exposure Scenario 16: Use in fuel

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC16: Using material as fuel sources, limited exposure to unburned product to be expected</p>
Environmental Release Categories	<p>ERC9a: Wide dispersive indoor use of substances in closed systems</p> <p>ERC9b: Wide dispersive outdoor use of substances in closed systems</p>
Activity	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

2.1 Contributing scenario controlling environmental exposure for: ERC9a, ERC9b

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

BRENN SOL D 80 / IBC 800 KG

Available hazard data do not support the need for a DNEL to be established for other health effects.
Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

BRENNSOL D 80 / IBC 800 KG

1. Short title of Exposure Scenario 17: Use as lubricants

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC7: Industrial spraying</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>PROC10: Roller application or brushing</p> <p>PROC13: Treatment of articles by dipping and pouring</p> <p>PROC17: Lubrication at high energy conditions and in partly open process</p> <p>PROC18: Greasing at high energy conditions</p>
Environmental Release Categories	<p>ERC4: Industrial use of processing aids in processes and products, not becoming part of articles</p> <p>ERC7: Industrial use of substances in closed systems</p>
Activity	Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes.

2.1 Contributing scenario controlling environmental exposure for: ERC4, ERC7

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17, PROC18

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

BRENNSOL D 80 / IBC 800 KG

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.
Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

BRENNSOL D 80 / IBC 800 KG

1. Short title of Exposure Scenario 18: Use as lubricants

Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)
Chemical product category	PC1: Adhesives, sealants PC24: Lubricants, greases, release products PC31: Polishes and wax blends
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems ERC9a: Wide dispersive indoor use of substances in closed systems ERC9b: Wide dispersive outdoor use of substances in closed systems
Activity	Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d, ERC9a, ERC9b

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling consumer exposure for: PC1, PC24, PC31

Product characteristics	Physical Form (at time of use)	Liquefied gas
	Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures

3. Exposure estimation and reference to its source

Consumers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

BRENNSOL D 80 / IBC 800 KG

1. Short title of Exposure Scenario 19: Use as lubricants

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>PROC10: Roller application or brushing</p> <p>PROC11: Non industrial spraying</p> <p>PROC13: Treatment of articles by dipping and pouring</p> <p>PROC17: Lubrication at high energy conditions and in partly open process</p> <p>PROC18: Greasing at high energy conditions</p> <p>PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems</p>
Environmental Release Categories	<p>ERC8a: Wide dispersive indoor use of processing aids in open systems</p> <p>ERC8d: Wide dispersive outdoor use of processing aids in open systems</p> <p>ERC9a: Wide dispersive indoor use of substances in closed systems</p> <p>ERC9b: Wide dispersive outdoor use of substances in closed systems</p>
Activity	Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d, ERC9a, ERC9b

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC2, PROC1, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC17, PROC18, PROC20

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

BRENN SOL D 80 / IBC 800 KG**Workers**

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

BRENNSOL D 80 / IBC 800 KG

1. Short title of Exposure Scenario 20: Use as Functional Fluids

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p>
Environmental Release Categories	ERC7: Industrial use of substances in closed systems
Activity	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers.

2.1 Contributing scenario controlling environmental exposure for: ERC7

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

BRENNSOL D 80 / IBC 800 KG

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

BRENNSOL D 80 / IBC 800 KG

1. Short title of Exposure Scenario 21: Use as Functional Fluids

Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)
Chemical product category	PC16: Heat transfer fluids PC17: Hydraulic fluids
Environmental Release Categories	ERC9a: Wide dispersive indoor use of substances in closed systems ERC9b: Wide dispersive outdoor use of substances in closed systems
Activity	Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants

2.1 Contributing scenario controlling environmental exposure for: ERC9a, ERC9b

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling consumer exposure for: PC16, PC17

Product characteristics	Physical Form (at time of use)	Liquefied gas
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>A DNEL cannot be derived</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>Keep lamps filled with this liquid out of the reach of children.</p>

3. Exposure estimation and reference to its source

Consumers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

BRENNSOL D 80 / IBC 800 KG

1. Short title of Exposure Scenario 22: Use as Functional Fluids

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems</p>
Environmental Release Categories	<p>ERC9a: Wide dispersive indoor use of substances in closed systems</p> <p>ERC9b: Wide dispersive outdoor use of substances in closed systems</p>
Activity	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in professional equipment including maintenance and related material transfers.

2.1 Contributing scenario controlling environmental exposure for: ERC9a, ERC9b

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC8a, PROC9, PROC20

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to

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at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.
Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 23: Use in laboratories

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	PROC15: Use as laboratory reagent
Environmental Release Categories	ERC2: Formulation of preparations ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
Activity	Use of the substance within laboratory settings, including material transfers and equipment cleaning

2.1 Contributing scenario controlling environmental exposure for: ERC2, ERC4

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.
Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 24: Use in laboratories

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	PROC15: Use as laboratory reagent
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC9a: Wide dispersive indoor use of substances in closed systems
Activity	Use of small quantities within laboratory settings, including material transfers and equipment cleaning

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC9a

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 25: Use in metal working fluids / rolling oils

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)</p> <p>PROC7: Industrial spraying</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>PROC10: Roller application or brushing</p> <p>PROC13: Treatment of articles by dipping and pouring</p> <p>PROC17: Lubrication at high energy conditions and in partly open process</p>
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles
Activity	Covers the use in formulated MWFs/rolling oils including transfer operations, rolling and annealing activities, cutting/machining activities, automated and manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils.

2.1 Contributing scenario controlling environmental exposure for: ERC4

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

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Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 26: Use in metal working fluids / rolling oils

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>PROC10: Roller application or brushing</p> <p>PROC11: Non industrial spraying</p> <p>PROC13: Treatment of articles by dipping and pouring</p> <p>PROC17: Lubrication at high energy conditions and in partly open process</p>
Environmental Release Categories	<p>ERC8a: Wide dispersive indoor use of processing aids in open systems</p> <p>ERC8d: Wide dispersive outdoor use of processing aids in open systems</p>
Activity	Covers the use in formulated MWFs/rolling oils including transfer operations, rolling and annealing activities, cutting/machining activities, automated and manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils.

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC10, PROC13, PROC17

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

BRENNSOL D 80 / IBC 800 KG**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 27: Use in de-icing and anti-icing applications

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2: Use in closed, continuous process with occasional controlled exposure PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC11: Non industrial spraying
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems
Activity	Ice prevention and de-icing of vehicles, aircraft and other equipment by spraying

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC8a, PROC8b, PROC11

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 28: Use in road and construction applications

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>PROC10: Roller application or brushing</p> <p>PROC11: Non industrial spraying</p> <p>PROC13: Treatment of articles by dipping and pouring</p>
Environmental Release Categories	<p>ERC8d: Wide dispersive outdoor use of processing aids in open systems</p> <p>ERC8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix</p>
Activity	Bulk loading (including marine vessel/barge, rail/road car and IBC loading) of substance within closed or contained systems, including incidental exposures during its sampling, storage, unloading, maintenance and associated laboratory activities.

2.1 Contributing scenario controlling environmental exposure for: ERC8d, ERC8f

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk

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Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

BRENNSOL D 80 / IBC 800 KG

1. Short title of Exposure Scenario 29: Use as water treatment chemicals

Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC13: Treatment of articles by dipping and pouring</p>
Environmental Release Categories	<p>ERC3: Formulation in materials</p> <p>ERC4: Industrial use of processing aids in processes and products, not becoming part of articles</p>
Activity	Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems.

2.1 Contributing scenario controlling environmental exposure for: ERC3, ERC4

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC13

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk

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Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 30: Use as water treatment chemicals

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC13: Treatment of articles by dipping and pouring</p>
Environmental Release Categories	ERC8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix
Activity	Covers the use of the substance for the treatment of water in open and closed systems.

2.1 Contributing scenario controlling environmental exposure for: ERC8f

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC13

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to

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at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 31: Use in explosives

Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	<p>PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition</p> <p>PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p>
Environmental Release Categories	ERC8e: Wide dispersive outdoor use of reactive substances in open systems
Activity	Covers exposures arising from the manufacture and use of slurry explosives (including materials transfer, mixing and charging) and equipment cleaning.

2.1 Contributing scenario controlling environmental exposure for: ERC8e

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC5, PROC8a, PROC8b

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 %.
	Physical Form (at time of use)	Liquefied gas
Frequency and duration of use	Covers daily exposures up to 8 hours	
Organisational measures to prevent /limit releases, dispersion and exposure	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>A DNEL cannot be derived</p>	

3. Exposure estimation and reference to its source

Workers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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Available hazard data do not support the need for a DNEL to be established for other health effects.
Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

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1. Short title of Exposure Scenario 32: Other consumer uses

Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)
Chemical product category	PC28: Perfumes, fragrances PC39: Cosmetics, personal care products
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems
Activity	Consumer uses e.g. as a carrier in cosmetics/personal care products, perfumes and fragrances. Note: For cosmetic and personal care products, risk assessment only required for the environment under REACH as human health is covered by alternative legislation, Note: this Exposure Scenario is only relevant for an appropriated use according to the quality grade of the substance delivered

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d

As no environmental hazard was identified no environmental related exposure assessment and risk characterization was performed

2.2 Contributing scenario controlling consumer exposure for: PC28, PC39

Product characteristics	Physical Form (at time of use)	Liquefied gas
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	<p>The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion</p> <p>A DNEL cannot be derived</p> <p>Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures</p> <p>For substances classified as H304, the following measures need to be implemented to control the aspiration hazard</p> <p>Do not ingest.</p> <p>If swallowed then seek immediate medical attention</p> <p>Do NOT induce vomiting.</p> <p>Keep lamps filled with this liquid out of the reach of children.</p>

3. Exposure estimation and reference to its source

Consumers

Qualitative approach used to conclude safe use.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Risk management measures are based on qualitative risk characterisation.