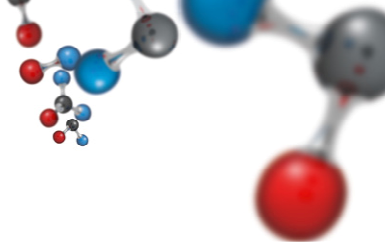


SAFETY DATA SHEET

N,N-DIMETHYLISOPROPYLAMINE



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

1.1 Product identifier

Chemical name: **N, N-Dimethylisopropylamine**
Registration no.: **01-2119969062-37-0002**
Index number: **–**
EC (EINECS) number: **213-635-5**
CAS number: **996-35-0**
Other names of the substance: **N,N-Dimethyl-2-propanamine**

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

Uses of the substance: **N,N-Dimethylisopropylamine is used as a polyurethane foams catalyst and in foundry resins (the overview of exposure scenarios is set out in Annex 1).**

Uses advised against: **not established**

1.3 Details of the supplier of the safety data sheet

Name: **BorsodChem MCHZ, s.r.o.**
Name or business name: **BorsodChem MCHZ, s.r.o.**
Place of business or headquarters: **Chemická 2039/1, 709 00 Ostrava – Mariánské Hory, Czech Republic**
Identification number: **26019388**
Telephone: **+420 596 641 111**
Fax: **+420 596 642 040**
E-mail of the technically competent person responsible for the safety data sheet: **zsvobodova@bc-mchz.cz**

1.4 Emergency telephone number

Company telephone number: **+420 596 643 221 or 596 620 794 non-stop**
24-hours emergency contact: CHEMTREC, telephone number: 001-703-527-3887, company code CCN 206 072

**The National Poisons Information Service (NPIS), City Hospital, Birmingham, B18 7QH, UK
Tel: +44 121 507 4123, fax: +44 121 507 5580, e-mail: allistervale@npis.org, www.npis.org**

**National Capital Poison Center, 3201 New Mexico Ave, Suite 310 Washington, DC 20016
Emergency Line: 1-800-222-1222, fax: 202-362-8377, e-mail: pc@poison.org, www.poison.org**

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

According to Regulation (EC) no. 1272/2008:

Flam. Liq. 2; H225 Highly flammable liquid and vapour.

Acute Tox. 4; H302 Harmful if swallowed.

Acute Tox. 3; H331 Toxic if inhaled.

Skin Corr. 1A; H314 Causes severe skin burns and eye damage.

Eye Dam. 1; H318 Causes serious eye damage.

STOT SE 3; H335 May cause respiratory irritation.

Aquatic Chronic 2; H411 Toxic to aquatic life with long lasting effects.

SAFETY DATA LIST

N,N-DIMETHYLISOPROPYLAMINE

Specific concentration limits: **Not established.**

The most important human health adverse effects during use of the substance or preparation:

Corrosive, causes severe burns of airways, eyes and skin. Toxic if inhaled. Harmful if swallowed.

The most important adverse effects to environment during use of the substance/preparation: **Flammable liquid. Toxic to aquatic life with long lasting effects.**

2.2 Label elements

According to Regulation (EC) no. 1272/2008:

Symbols:



Signal word: **DANGER**

H phrases:

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H331 Toxic if inhaled.

H335 May cause respiratory irritation.

H411 Toxic to aquatic life with long lasting effects.

P phrases:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/ doctor.

P403+P235 Store in a well-ventilated place. Keep cool.

2.3 Other hazards

The substance is not identified as persistent, bio-accumulative and toxic (PBT) or very persistent, very bio-accumulative (vPvB) under Annex XIII of Regulation 1907/2006/EC.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	N, N-Dimethylisopropylamine
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SAFETY DATA LIST

N,N-DIMETHYLISOPROPYLAMINE

Index number	–
EC Number	213-635-5
CAS Number	996-35-0
Substance content (% w.)	min. 99.00
Synonyms	N,N-Dimethyl-2-propanamine

Impurities: < 1 % w., CMR impurities < 0.1 % w.

3.2 Mixtures

This is a chemical substance.

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation: Remove the victim quickly and considering own safety to fresh air, do not let the victim walk! Depending on situation, it is recommended to rinse oral cavity and, if necessary, nose with water. If the victim's clothing is contaminated, change the victim and protect him/her against cold. Ensure breathing. Call a physician!

If on skin: Remove contaminated clothing immediately; before washing or during washing, remove any rings, watches, bracelets that are in places of contact of the substance with skin. Rinse affected areas with stream of lukewarm water, if possible, for 10 to 30 minutes; do not use a brush, soap or neutralising agents! Cover burned areas of skin with a sterile dressing, do not use any ointments or other medical and pharmaceutical products. Cover the victim to protect him against cold. Depending on situation, call the rescue service or ensure medical attention.

If in eyes: Rinse eyes immediately under running water, open eyelids (even by force); if the victim wears contact lenses, remove them immediately. Do never neutralise! Rinse for 10 to 30 minutes from the inner to the outer ocular angle to prevent running of water in the other eye. Ensure as soon as possible medical treatment by an expert, if possible; the victim must get medical attention even in case of small injury.

If swallowed: DO NOT INDUCE VOMITING - higher risk of harm to digestive tract!!! RINSE MOUTH IMMEDIATELY WITH WATER AND GIVE TO DRINK 2-5 dl of cold water to attenuate thermal effect of the caustic (*due to almost immediate effect to mucous membranes, it is suitable to offer immediately tap water than loose time by looking for chilled liquid - each minute of delay causes irreversible harm to mucous membranes! Soda water or mineral waters are not recommended, as they may release gaseous carbon dioxide. It is not recommended to consume a lot of liquid, as it could induce vomiting and possible aspiration of the caustic in lungs*). Do not force the victim to drink, especially if he/she feels pain in mouth or throat. In this case, make the victim rinse his/her mouth. DO NOT ADMINISTER ACTIVATED CARBON! (*blackening will make examination of the mucous membranes of more difficult and activated charcoal has not positive effect in case of acids and lyes*). Do not give anything to eat. Do not administer anything by mouth if the victim is unconscious or has convulsions. Get immediate medical attention!

4.2 Most important symptoms and effects, both acute and delayed

Causes burns of airways, eyes and skin. Inhalation of vapours may cause bronchitis to pulmonary oedema, sensitive persons suffer from cough, wheezing, laryngitis, headache, nausea and vomiting. Always seek a physician!

4.3 Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.

SAFETY DATA LIST

N,N-DIMETHYLISOPROPYLAMINE

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: **carbon dioxide, powder, foam**

Unsuitable extinguishing media: **water**

5.2 Special hazards arising from the substance or mixture: **Flammable liquid, risk of ignition under normal temperature, do not approach to sources of ignition. Thermal decomposition liberates oxides of nitrogen and carbon.**

5.3 Advice for firefighters: **Special protective clothes and insulated breathing apparatus.**

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures: **Protection of airways, protective clothes and gloves.**

6.2 Environmental precautions: **Prevent contamination of earth and water.**

6.3 Methods and material for containment and cleaning up: **Cover with an absorbent material (Vapex, Vermikulit) and sweep up into a waste container. For methods of disposal see Section 13.**

6.4 Reference to other sections: **sections 8 and 13**

SECTION 7: Handling and storage

7.1 Precautions for safe handling: **Supplied in reclosable barrels and in small barrels (12 l or 60 l) or in IBC containers in version EX. The recommended maximum temperature during transport is 30 °C.**

7.2 Conditions for safe storage, including any incompatibilities: **Store in original packaging or in containers with inert atmosphere at low temperatures. Do not store together with oxidising materials. Do not store together with foodstuffs.**

7.3 Specific end use(s): **Use only in industry.**

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Czech Republic: PEL/NPK-P 10/20 mg.m⁻³

EC countries (2000/39/EC): not established

8.1.1 DNEL (Derived No Effect Level) for exposure of workers

Systemic Long-term Effect – inhalation:	3.6 mg/m³
Systemic Long-term Effect – dermal:	0.9 mg/kg of weight/day
Acute exposure (local effects) – inhalation:	7.2 mg/m³
Acute exposure (local effects) – dermal:	not established

8.2 Exposure controls

When used in a closed circuit or with sufficient vapour exhaust, it is necessary to use standard personal protective equipment. When used in an open facility and insufficient vapour exhaust (Dimethylisopropylamine concentration > DNEL inhalation), it is necessary to use respiratory protection.

Respiratory protection: **if necessary, protective mask with a filter (EN 140) against organic vapours – type A/P2 (APF10)**

Eye protection: **protective glasses or face shield (EN 166)**

SAFETY DATA LIST

N,N-DIMETHYLISOPROPYLAMINE

Hand protection: **protective gloves (EN 374)**

Skin protection: **protective clothing**

Other data: **Do not eat, drink and smoke during work. Wash your hands with hot water and soap after work, apply suitable reparative preparations.**

Environmental exposure controls: **Use in a closed circuit, waste gases burnt in a fire crack or cleaned by adsorption (activated carbon), wastewater treated biologically.**

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state (at 20 °C):	liquid
Appearance:	oily liquid
Colour:	colourless
Odour:	characteristic aromatic
Odour threshold:	not established
pH:	12.53
Melting point/freezing point (at 1013 hPa in °C):	-136
Boiling point (at 1013 hPa in °C):	66.25
Flash point (at 1013 hPa in °C):	- 24.8
Evaporation rate:	not established
Flammability (°C):	highly flammable
Upper/lower explosive limits (% vol.):	not established
Vapour pressure (hPa at 20 °C):	189.9
Vapour density:	not established
Relative density at 20 °C:	0.713
Solubility at 25 °C (g.l ⁻¹) – in water:	100
Partition coefficient: n-octanol/water (log p _{ow} at 25 °C and pH 10.5-10.9):	0.89
Auto-ignition temperature (at 1013 hPa in °C):	205
Decomposition temperature:	not established
Explosive properties:	none
Oxidising properties:	none
Autoflammability (°C):	not established

9.2 Other information: **not available**

SECTION 10: Stability and reactivity

10.1 Reactivity: **Possibility of reaction at temperatures higher than 30 °C.**

10.2 Chemical stability: **Stable at temperatures up to 20 °C.**

10.3 Possibility of hazardous reactions: **On warm days and in case of heating up, the substance forms corrosive and explosive mixtures heavier than air. When ignited, fire spreads quickly in long distances.**

10.4 Conditions to avoid: **High temperature and sources of ignition.**

SAFETY DATA LIST

N,N-DIMETHYLISOPROPYLAMINE

10.5 Incompatible materials: **Must not get in contact with oxidising materials.**

10.6 Hazardous decomposition products: **Release of oxides of nitrogen and carbon monoxide.**

SECTION 11: Toxicological information

Information on toxicological effects:

CLP evaluation

11.1 Acute toxicity:

- LD₅₀ (oral, rat) = **684 mg.kg⁻¹, category 4**
- LD₅₀ (derm., rabbit) > **2000 mg.kg⁻¹, not classified**
- LC₅₀ (inhal., rat) = **4.499 mg.m⁻³/4h**, read-across Dimethyl-n-propylamine, **category 3**

11.2 Irritation: **skin and eye corrosive 1A**

Eye damage 1st category

11.3 Sensitisation (Guinea pig): **not sensitising**

11.4 Mutagenicity (in vitro and in vivo studies): **negative**

11.5 Carcinogenicity (rat, mouse): **not established**

11.6 Reproductive toxicity (rat, oral, reproductive/developmental toxicity, read-across): **not classified**

11.7 Specific target organs toxicity – single exposure: **STOT SE 3 category (respiratory tract irritation)**

11.8 Specific target organs toxicity – repeated exposure: **NOAEL** (subchronic., rat, oral) = **90 mg/kg bw/day not classified**

11.9 Aspiration hazard: **not established**

SECTION 12: Ecological information

12.1 Toxicity

12.1.1 Aquatic toxicity

Leuciscus idus: LC₅₀ = **31.6 mg/l/96 h**

Daphnia magna: EC₅₀/ LC₅₀ = **38.42 mg/l/48 h**

EC₁₀/LC₁₀/NOEC = **1.73 mg/l**

Pseudomonas putida: EC₅₀/ LC₅₀ = **48.2 mg/l/17 h**

EC₁₀/ LC₁₀/NOEC = **36.8 mg/l**

Soil organisms: **data not available**

Plants and land animals

Desmodemus subspicatus: EC₅₀/ LC₅₀ = **5.38 mg/l/72 h**

EC₁₀/ LC₁₀/NOEC = **0.93 mg/l**

Classification conclusion: Toxic for aquatic environment

12.1.2 Sediment toxicity: **not established**

SAFETY DATA LIST

N,N-DIMETHYLISOPROPYLAMINE

12.1.3 PNEC (Predicated No Effect Concentration)

PNEC aqua (freshwater):	0.0186 mg/l
PNEC aqua (marine water):	0.00186 mg/l
PNEC sediment:	0.4743 mg/kg of weight of dry sediment
PNEC sewage treatment plant:	36.8 mg/l
PNEC soil:	0.084 mg/kg of weight of dry soil

12.2 Persistence and degradability

Evaluation: OECD 302 B: **29 % after 28 days, not inherent biodegradable**
OECD 301 D: **2 % after 28 days, not readily biodegradable**

12.3 Bio-accumulative potential: **not bio-accumulative (log Pow < 3)**

12.4 Mobility in soil

Stability: **miscible with water**
Adsorption: **log Koc at 20 °C = 2.4**

12.5 Results of PBT and vPvB assessment: **not PBT/vPvB**

12.6 Other adverse effects: **not specified**

SECTION 13: Disposal considerations

13.1 Waste treatment methods: **Waste product included in category "N", may be disposed by incineration in a hazardous waste incineration plant in accordance with Act on Wastes under the catalogue numbers 160305, 160508 or 150202.**

Disposal of contaminated packaging: **Returnable packaging, destined only for N,N-Dimethylisopropylamine. Rinse barrels with water, contain wastewater and dispose in accordance with relevant regulations.**

SECTION 14: Transport information

Land transport (ADR/RID)

Marine transport (IMPG)

Air transport (ICAO/IA TA)

14.1 UN number:	2733
14.2 UN proper shipping name:	AMINES, FLAMMABLE, CORROSIVE, N.O.S. (N,N-Dimethylisopropylamine)
14.3 Transport hazard class(es):	3 (8), FC
Hazard identification number (Kemler code):	338
14.4 Packing group:	II
14.5 Environmental hazards:	yes
Marine pollutant:	yes
14.6 Special precautions for user:	included in „Segregation Groups - 18 Alkalis“
EMS:	F-E, S-C
14.7 Transport in bulk according to Annex II	irrelevant

SAFETY DATA LIST

N,N-DIMETHYLISOPROPYLAMINE

of MARPOL and the IBC Code:

SECTION 15: Regulatory information

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

15.1.1 EU regulations concerning safety, health and environment/specific legislation concerning substances or mixtures, as amended:

- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006;
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 93/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC;
- Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives;
- Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances.

15.1.2 Regulations valid in CR and concerning safety, health and environment/specific legislation concerning substances or mixtures, as amended:

- Act 350/2011 Coll., on chemical substances and chemical mixtures and on amendments to some acts;
- [Decree of Ministry of Environment no. 93/2016 Coll. laying down Waste Catalogue;](#)
- Governmental decree no. 361/2007 Coll., laying down occupational health and safety conditions.

15.2 Chemical safety assessment

Chemical safety assessment is part of the chemical safety report for N,N-Dimethylisopropylamine (DMIPA) – the overview of risk management measures is provided in Annex 1.

Detailed information on exposure scenarios will be contained in Annex 2 available at the customer's request.

SECTION 16: Other information

16.1 This safety material data sheet supersedes all previous versions.

16.2 List of abbreviations

Carc.:	Carcinogenicity
CAS:	Chemical Abstracts Service
CLP:	Classification, labelling, packaging regulation
CSR:	Chemical safety report
DNEL:	Derived no-effect level
ES:	Exposure scenario
EC:	European Commission
EC ₅₀ :	Median effective concentration EC ₅₀ – used in toxicity tests. Median effective concentration EC ₅₀ is the concentration of substance that causes 50 % mortality or 50 % decrease of growth or growth rate with reference to the control sample.
EINECS:	European Inventory of Existing Commercial Chemical Substances
ELINCS:	European List of Notified Chemical Substances
Irrit.:	Irritant

SAFETY DATA LIST

N,N-DIMETHYLISOPROPYLAMINE

LC ₅₀ :	Lethal concentration, 50 % (lethal concentration) is used for toxicity tests
LD ₅₀ :	Absolute lethal dose that kills 50 % of members of population
LOAEC:	Lowest observed adverse effect concentration
NOAEC:	No observed adverse effect concentration
NOEC:	No observed effect concentration
OECD:	Organisation for Economic Cooperation and Development
PBT:	Persistent, bio-accumulative and toxic
PNEC:	Predicted no-effect concentration
REACH:	Registration, Evaluation, Authorisation and Restriction of Chemicals
Sens.:	Sensitivity
STOT:	Specific target organs toxicity
STOT SE:	Specific target organs toxicity – single exposure
STOT RE:	Specific target organs toxicity – repeated exposure
STP:	Sewage treatment plant
SU:	Sector of use
Tox.:	Toxicity
vPvB:	Very persistent and very bio-accumulative

16.3 List of mentioned phrases

H phrases:

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H331 Toxic if inhaled.

H335 May cause respiratory irritation.

H411 Toxic to aquatic life with long lasting effects.

P phrases:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/ doctor.

P403+P235 Store in a well-ventilated place. Keep cool.

16.4 Sources used.

Safety data sheet – N,N-dimethylisopropylamine, BC MCHZ, 5th version issued in 06/2015

SAFETY DATA LIST

N,N-DIMETHYLISOPROPYLAMINE

16.5 History of revisions

Issue	Date	Change
1.0	30.11.2010	Preparation of the safety data sheet according to Regulation (EC) No 1907/2006 of the European Parliament and of the Council.
2.0	15.08.2011	Overall revision of all sections of the safety data sheet according to Regulation (EC) No 453/2010 of the European Parliament and of the Council.
3.0	01.12.2012	Update of classification (use of a combination of H-phrases), update of the regulations valid in the Czech Republic, and revisions according to Regulation (EC) No 286/2011 of the European Parliament and of the Council
4.0	24.06.2013	Complementation of the registration number, complementation of data from registration and of the overview of exposure scenarios.
5.0	01.06.2015	Modification of Section 2 (deletion of classification under DSD) and other sections according to regulations 2015/830/EU.
6.0	12.12.2016	Revision according to Commission Regulation (EU) no. 918/2016

Prepared by: Ing. Zuzana Svobodová – IT & Quality, ecology and safety department

Approved by: Ing. Stanislav Pekara, MBA - Head of IT & Quality, ecology and safety department

Version: English

Date: 12.12.2016

Safety Data Sheet

N,N-Dimethylisopropylamine

www.borsodchem-cz.com

The mentioned data reflect the present state of knowledge and experience and they are in compliance with valid legislation of the Czech Republic. The client is responsible for observing valid national legislation in the place of use.

Manufactured by:

BorsodChem MCHZ, s.r.o.

Chemická 2039/1

709 00 Ostrava – Mariánské Hory

Telephone: +420 596 641 111

Fax: +420 596 626 258

SAFETY DATA LIST

N,N-DIMETHYLISOPROPYLAMINE

Annex No. 1

OVERVIEW OF EXPOSURE SCENARIOS

Number of exposure scenario	Volume (t/r)	Production	Identified use			Stage of life cycle		Areas of application (SU)	Chemical products (PC)	Processes (PROC)	Release to the environment (ERC)	Items (AC)
			Formulation	End use	Consumers	Period of use (for items)	Stage of waste					
ES2 Repacking in industrial settings	N/A							SU3		PROC8a, 8b, 9	ERC2	N/A
ES3 Formulation Industrial Use	N/A		X					SU3, SU12, SU15	PC3 2	PROC1, 2, 3, 4, 5, 8a, 8b, 9, 15	ERC2	N/A
ES4 Use as intermediate Industrial Use	N/A			X				SU3, SU9	PC1 9	PROC1, 2, 3, 4, 5, 8a, 8b, 15	ERC6a	N/A

N/A – Not available (confidential)

SUMMARY OF RISK MANAGEMENT MEASURES

Title	Manufacture and use of Dimethylisopropylamine (DMIPA)
Sector of Use	SU3, SU9, SU10, SU12, SU15
Process Category	PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15
Product Category	PC19, PC32
Environmental release Category	ERC1, ERC2, ERC6a
Processes, tasks, activities covered	<p>Covers the manufacture and use of DMIPA in closed processes where exposure to DMIPA is contained, or where exposure (inhalation or dermal) to DMIPA may occur during sampling, maintenance or equipment breakage.</p> <p>Covers further processing (use) of DMIPA to form a number of different products such as polymer products for foundry covers and special chemicals during which DMIPA is predominantly contained but there may be some exposure during sampling, maintenance and equipment breakage.</p> <p>Covers the same processing (use) of DMIPA in batch or other processes where, due to the nature of the process design opportunity for exposure to DMIPA may occur but with exposure to DMIPA controlled by operational conditions or risk management measures.</p> <p>Covers the transfer of DMIPA by charging/discharging from/to small or large containers at dedicated or non-dedicated facilities, with</p>

SAFETY DATA LIST

N,N-DIMETHYLISOPROPYLAMINE

	<p>exposure to DMIPA controlled by operational conditions or risk management measures.</p> <p>Covers use of aniline as laboratory reagent at small scale laboratories with quantities of 1 L or 1 kg DMIPA or less present in the workplace with exposure to DMIPA controlled by operational conditions or risk management measures.</p> <p>It is assumed that all processes are performed at room temperature.</p>
	Operational conditions and risk management measures
	Control of worker exposure
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated) [OC1]
Other Operational Conditions affecting worker exposure	<p>DMIPA carries a hazard warning, therefore where procedures in the manufacture or use of DMIPA are not designed to contain emissions, workers exposure to DMIPA must be prevented by use of local exhaust ventilation and good work practices. These may include: keeping equipment under negative pressure,</p> <ul style="list-style-type: none"> • control of staff entry to work area, • ensuring all equipment is well maintained, • permits to work for maintenance work, • regular cleaning of equipment and work area, • systems in place to ensure correct use of RMMs and that OCs are being followed, training for staff on good practice, • procedures and training for emergency decontamination and disposal, • good standards of personal hygiene, • recording of any 'near miss' situations. • sensitisers – pre-employment screening and appropriate health screening.
Process Categories	Risk Management Measures *
1, 2, 3, 4, 5, 8a, 8b, 9, 15	<p>DMIPA carries a hazard warning classification, therefore where exceptional procedures may result in exposure to DMIPA:</p> <p>Use suitable eye protection and gloves [PPE14].</p> <p>Wear a full face respirator conforming to EN140 with Type A/P2 filter or better [PPE32]</p> <p>Wear suitable coveralls to prevent exposure to the skin [PPE27].</p>
1 – Use in closed process, no likelihood of exposure	Handle substance within a closed system [E47].
2 – Use in closed, continuous process with occasional controlled exposure (e.g. sampling)	<p>Handle substance within a closed system [E47].</p> <p>Wear suitable gloves tested to EN374 [PPE15] during material sampling.</p> <p><u>ES 2, ES 3, ES 4</u> - Avoid carrying out operation for more than 1 hour [OC11].</p>

SAFETY DATA LIST

N,N-DIMETHYLISOPROPYLAMINE

3 – Use in closed, batch process (synthesis or formulation)	<p>Handle substance within a predominantly closed system provided with extract ventilation [E49].</p> <p>Ensure material transfers are under containment or extract ventilation [E66].</p> <p>Ensure samples are obtained under containment or extract ventilation [E76].</p> <p><u>ES 2, ES 3, ES 4</u> - Avoid carrying out operation for more than 1 hour [OC11].</p>
4 – Use in batch and other process (synthesis) where opportunity for exposure arises	<p>Provide extract ventilation to points where emissions occur [E54].</p> <p>Ensure material transfers are under containment or extract ventilation [E66].</p> <p>Ensure samples are obtained under containment or extract ventilation [E76].</p> <p>Avoid carrying out operation for more than 1 hour [OC11].</p>
5 – Mixing and blending in batch processes	<p>Provide extract ventilation to points where emissions occur [E54].</p> <p>Ensure material transfers are under containment or extract ventilation [E66].</p> <p>Ensure samples are obtained under containment or extract ventilation [E76].</p> <p>Avoid carrying out operation for more than 1 hour [OC11].</p>
8a – Transfer of chemicals from/to vessels/ large containers at non-dedicated facilities.	<p>Fill containers/cans at dedicated fill points supplied with local extract ventilation [E51].</p> <p>Provide extract ventilation to material transfer points and other openings [E82].</p> <p>Avoid carrying out operation for more than 1 hour [OC11].</p>
8b – Transfer of chemicals from/to vessels/ large containers at dedicated facilities.	<p>Fill containers/cans at dedicated fill points supplied with local extract ventilation [E51].</p> <p>Provide extract ventilation to material transfer points and other openings [E82].</p> <p>Avoid carrying out operation for more than 1 hour [OC11]</p>
9 – Transfer of substance into small containers (dedicated filling line, including weighing)	<p>Fill containers/cans at dedicated fill points supplied with local extract ventilation [E51].</p> <p>Provide extract ventilation to material transfer points and other openings [E82].</p> <p>Avoid carrying out operation for more than 4 hours [OC12]</p>
15 – Use of laboratory reagents in small scale laboratories	<p>Carry out in a vented booth or extracted enclosure [E57].</p> <p>Ensure samples are obtained under containment or extract ventilation [E76].</p> <p>Avoid carrying out operation for more than 1 hour [OC11].</p>

* standard phrases and codes are extracted from GES Worker Chemical Safety Assessment (CSA) Template on the Cefic web-site <http://www.cefic.org>