



FEDERCHIMICA
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AISPEC

Group of lubrication industry companies - Gail

Guidelines for the compilation of Safety Data Sheets for lubricants

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Index

Heading	
1	Premise 4
2	Document purpose and structure 5
3	The safety data sheet : guide to the compilation 6
Heading 1	
	Identification of the substance/preparation of the substance/preparation and of the company/undertaking7
Heading 2	
	Composition/information on ingredients..... 9
Heading 3	
	Hazards identification 12
Heading 4	
	First aid measures 13
Heading 5	
	Fire-fighting measures 15
Heading 6	
	Accidental Release Measures 16
Heading 7	
	Handling and storage..... 17
Heading 8	
	Exposure control/individual protection 18
Heading 9	
	Physical and chemical properties 20
Heading 10	
	Stability and reactivity 22
Heading 11	
	Toxicological information 23
Heading 12	
	Ecological information..... 25
Heading 13	
	Disposal considerations 27
Heading 14	
	Transport information..... 28
Heading 15	
	Regulatory information..... 29
Heading 16	
	Other information 30
	Example: SDS Dangerous product 31

1. Premise

The information and recommendations in this document do not exonerate the reader from making sure the laws in force are respected regarding the activity carried out in its company or in the place where its activity is carried out. The information contained in this guide must be checked independently and examined within the context the products are to be used in.

The information and recommendations contained herein sum up the best knowledge available at the time of publication and were obtained from sources considered reliable. Gail takes on no obligation to update or correct this publication for any reason, not even if new, different information should become available on safety in the handling of lubricants, or if there should be changes to laws and regulations by any organism on the subject dealt within this publication.

The authors of this publication give no guarantee, either expressed or implicit, on the accuracy of the information contained herein and, except for laws to the contrary, cannot be prosecuted for any loss, damage, injury or claim suffered or occurring due to the use of this publication or because it was based on the information herein.

This document takes the main legal references in the sector into account; however the indications herein cannot be considered as exhaustive nor substitutive of specific norms.

2. Document purpose and structure

The purpose of this publication is to provide, to the best of present knowledge, correct indications on drafting Safety Data Sheets for all those who are responsible for placing lubricants on the market. The companies associated to Gail agree to follow these guidelines and, starting from the presupposition of correct norm application and the aim to reduce the impact of their activities on the safety and health of employees, customers, and the environment in general, decide to give supplementary indications and information (for example supplying general information on the main substance families used as raw materials).

Lubricant manufacturers belonging to Gail invite readers of this publication to use it as a general reference guide for safety in the handling of products used in lubrication and to be a reminder of norms on their use. The publication considers the 16 points in the SDS, including for each product family and for each of the 16 points both the general indications in the Directive 2001/58/EC and the SDS indications agreed on by the adhering companies.

Over recent years, market evolution has led to a strong specialisation in formulation terms for this product type. For example, for metal-working fluids (MWF) this need has led the manufacturer to use various chemical substances and preparations of different kinds, both dangerous and not, to ensure the product the right lubricating characteristics.

In several cases, these preparations are not classified as dangerous so, if they do not contain dangerous substances in a individual concentration greater than 1% in weight, they are not subjected to a Safety Data Sheet. *The companies belonging to Gail, to protect the users of said products, commit, for products that are not dangerous, to provide 16 point Safety Data Sheets even though they are not obliged to by law*

3. The safety data sheet: guide to the compilation

The main purpose of this guide is to uniform, fully respecting the laws in force, information on safety regarding the specific use of lubricating products.

In this way, the intention is to make more information on the use of lubricating products than is strictly required by the laws in force available and to make said information easier to understand for the user, highlighting in particular those risks arising from the frequent incorrect management practices found on the market.

In drafting the different sections on the diverse product families considered, we have taken into account: typical formulations, used quantities, applications in banded areas or in closed circuits, exposure risks, habits on the market, in their own foreseeable usage.

Any special risks coming from the presence of specific substances or compounds not normally used in formulation of lubricants should be assessed case by case.

We have also highlighted that exhausted products must be managed in accordance with current regulations and using the hygiene precautions recommended for dangerous waste.

This guide has been drawn up to supply indications on how to draft the 16 points in the SDS for lubricating products which include:

water soluble and not soluble metal-working fluids, engine oils, hydraulic transmission and suspension fluids, insulating oils, lubricants for industrial machinery and general lubrication, protective solvent-based or not fluids, plasticizers, white oils, quenching lubricants, forming lubricants, drawing and demoulding lubricants, greases.

Heading 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Legislation:

Indications included in **Directive 2001/58/EC** – Heading 1

1.1. Identification of the substance or preparation

The term used for identification must be identical to that provided on the label as set out in, Annex VI to Directive 67/548/EEC.

Other means of identification available may also be indicated.

1.2. Use of the substance/preparation

Indicate the intended or recommended uses of the substance or preparation as far as they are known. Where there are many possible uses, only the most important or common uses need be listed. This should include a brief description of what it actually does, e.g. flame retardant, anti-oxidant, etc.

1.3. Company/undertaking identification

Identify the person responsible for placing the substance or preparation on the market within the Community, whether it be the manufacturer, importer or distributor. Give the full address and telephone number of this person.

In addition, where this person is not located in the Member State where the substance or preparation is placed on the market, give a full address and telephone number for the person responsible in that Member State, if possible.

1.4. Emergency telephone

In addition to the above mentioned information, supply the emergency telephone number of the company and/or relevant official advisory body (this may be the body responsible for receiving information relating to health, which is referred to in Article 17 of Directive 1999/45/EC).

General information:

Compared to the previous Directive 91/155/EC, the new directive underlines that if the person responsible for marketing the substance/preparation is resident abroad, it would be still better to indicate reference address and phone number.

If there should be no company emergency reference, it must be NOT indicated the number of the ISS (Istituto Superiore di Sanità) but one of the Anti-poison Centres for which the Decree no. 65 of 14/03/2003 (ex Decree no. 285 of 16/07/1998) foresees the creation of an obligatory database.

For all other cases, they can still be used in the case of accident to obtain more information on risks deriving from unusual exposure.

Heading 1
IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE
COMPANY/UNDERTAKING

Indications for compilation:

1.1 Product name:

The product's commercial name must be given. The company's internal code can also be added .

1.2 Use/application:

Insert as identifying element a short description of the application, for example:

- water soluble MWF for cutting applications;
- engine oil
- grease for bearings
- neat oil for metalworking and drawing
- temporary protective oil
- insulating oil
- white oil

1.3 Supplier:

1.3.1. Name

1.3.2. Address

1.3.3. Telephone

1.3.4. Fax

1.3.4 Anti-poison Centre telephone

Heading 2 COMPOSITION/INFORMATION ON INGREDIENTS

Legislation:

Indications included in **Directive 2001/58/EC** – Heading 2

2. The information given should enable the recipient to identify readily the hazards of the components of the preparation. The hazards of the preparation itself should be given under heading
 - 2.1. It is not necessary to give the full composition (nature of the ingredients and their concentration), although a general description of the components and their concentrations can be helpful.
 - 2.2. For a preparation classified as dangerous according to Directive 1999/45/EC, the following substances shall be indicated, together with their concentration or concentration range:
 - (i) substances presenting a health or environmental hazard within the meaning of Directive 67/548/EEC, if they are present in concentrations equal to or greater than those laid down in the table set out in Article 3 of Directive 1999/45/EC (unless lower limits are given in Annex I to Directive 67/548/EEC or in Annexes II, III or V to Directive 1999/45/EC);
 - (ii) and substances for which there are Community workplace exposure limits, which are not already included under (i).
 - 2.3. For a preparation not classified as dangerous according to Directive 1999/45/EC, the following substances shall be indicated, together with their concentration or concentration range, if they are present in an individual concentration of ≥ 1 % by weight for non-gaseous preparations and $\geq 0,2$ % by volume for gaseous preparations:
 - substances presenting a health or environmental hazard within the meaning of Directive 67/548/EEC(1);
 - and substances for which there are Community workplace exposure limits.
 - 2.4. The classification (deriving either from Articles 4 and 6 or from Annex I to Directive 67/548/EEC) of the above substances shall be given, including the symbol letters and R phrases which are assigned in accordance with their physicochemical, health and environmental hazards. The R phrases do not need to be written out in full here: reference should be made to heading 16, where the full text of each relevant R phrase shall be listed.
 - 2.5. The name and the EINECS or ELINCS number of the above substances should be given in accordance with Directive 67/548/EEC. The CAS number and IUPAC name (if available) may also be helpful. For substances listed by a generic name, according to Article 15 of Directive 1999/45/EC or the footnote to point 2.3 of this Annex, a precise chemical identifier is not necessary.
 - 2.6. If, in accordance with the provisions of Article 15 of Directive 1999/45/EC or the footnote to point 2.3 of this Annex, the identity of certain substances is to be kept confidential, their chemical nature shall be described in order to ensure safe handling. The name used must be the same as that which derives from the above procedures.

(1) Where the person responsible for placing the preparation on the market can demonstrate that the disclosure in the safety data sheet of the chemical identity of a substance which is exclusively classified as:

- irritant with the exception of those assigned R41 or irritant in combination with one or more of the properties mentioned in point 2.3.4 of Article 10 of Directive 1999/45/EC,
- or harmful in combination with one or more of the properties mentioned in point 2.3.4 of Article 10 of Directive 1999/45/EC presenting acute lethal effects alone

will put at risk the confidential nature of his intellectual property, he may, in accordance with the provisions of Part B of Annex VI to Directive 1999/45/EC, refer to that substance either by means of a name that identifies the most important functional chemical groups, or by means of an alternative

Heading 2 COMPOSITION/INFORMATION ON INGREDIENTS

General information:

The used name must be the one coming from application of the above mentioned provisions. Inclusion of dangerous substances in point 2.2 must also be made for not dangerous preparations, in the same way used for dangerous preparation.

To supply more information on exposure risks - needed to be assessed by the user, according to Directive 89/392/EEC and other Directives concerning safety and health of workers - the point 2.1 includes, at a quality level, substances or substance families of the preparation that are not considered dangerous or that are present in a lower quantity than the legislation limits; this indication is included for dangerous and not dangerous preparations. For the exposure limits, refer to National and Community Legislation (In Italy it's possible to use control worker exposure limits in the chemical industry, provided by Federchimica)

Indications for compilation:

2.1 Composition:

Give the list of substance groups that make up the product; (the following table - not complete – includes the main groups identified as an example):

Family	Function	Family	Function
Fatty acids	<i>Greasing</i>	Graphites	
Poly-carboxylic acids	<i>Anti-corrosive</i>	Synthetic hydrocarbons	<i>Base</i>
Alkanolamides from fatty acids	<i>Anti-corrosive</i>	Sulphorized hydrocarbons	<i>EP</i>
Alkyl-phosphates	<i>EP</i>	Iodo carbamide derivatives	<i>Fungicide</i>
Alkyl-benzene	<i>Base</i>	Isothiazolinon derivatives (BIT)	<i>Bactericide</i>
Condensed alkyl-phenol n<8	<i>Surface-active</i>	Base oils from natural origin	<i>Base</i>
Condensed alkyl-phenol n>8	<i>Surface-active</i>	White oils	<i>Base</i>
Carboxylated alkyl-poliglycoleters	<i>Surface-active</i>	Refined mineral oils DMSO<3%	<i>Base</i>
Fatty alcohols	<i>Co-solvent</i>	Zinc oxides	<i>Grease loading</i>
Condensed fatty alcohols	<i>Surface-active</i>	Petrol	<i>Solvents</i>
Boric amides	<i>RP, bio-stability</i>	Pyrition Salts	<i>Fungicide</i>
Antiox Amino/phenol	<i>Antioxidant</i>	Poly-alkenylsuccinimide	<i>RP</i>
Aril phosphates	<i>EP</i>	Olefinic polymers	<i>Base</i>
Aril-alkyl amine derivatives	<i>Antioxidant</i>	Polymetacrylate	<i>V.I.I.</i>
Synthetic bases based on organic esters	<i>Base</i>	Polyalkylenglicols	<i>Base</i>
Benzotriazol derivatives	<i>Inhibitor</i>	Polyalkylsiloxans	<i>Anti-foam</i>
Bitumen		Polyglycoleters	<i>Base</i>
Butyl-diglycol	<i>Co-solvent</i>	Polyglycols	<i>Base</i>
Hydrocarbon waxes		Resins	<i>Solvents</i>
Chloroparaffin C14-C17	<i>EP</i>	Powdered copper	<i>Grease loading</i>
Triazinic Compounds formaldehyde release	<i>Bactericide</i>	Boric acid salts with alkanolamines	<i>RP, bio-stability</i>
Non triazinic Compounds formaldehyde release	<i>Bactericide</i>	Carboxylic acid salts with Amine	<i>RP</i>
Olefinic co-polymers	<i>V.I.I.</i>	Lithium, calcium, aluminium soaps and complexes	<i>Oil pulp</i>
Derivatives of t-butyl-phenol	<i>Antioxidant</i>	Alkanolamin of fatty acid soaps	<i>Surfactant</i>
Derivatives of phosphonic acid	<i>Functional additive</i>	Organic silica derivatives	<i>Disperdent</i>

Heading 2 Composition/information on ingredients

<i>Family</i>	<i>Function</i>	<i>Family</i>	<i>Function</i>
Boric esters	<i>RP, bio-stability</i>	Sodium sulphonates	<i>Surfactant</i>
Natural esters	<i>Greasing</i>	Magnesium/calcium sulphonates	<i>RP,EP</i>
Synthetic esters	<i>Greasing</i>	Barium sulphonates	<i>RP</i>
Sulphored esters	<i>EP</i>	Triethanolamine	<i>Neutralizing</i>
Calcium phenates and sulphenates	<i>RP, detergent</i>	Zinc-dialkyldi thiophosphates	<i>WP</i>
Amino phosphates	<i>EP</i>		
Gas oils >7cSt/40°C	<i>Base</i>		
Gas oils <7cSt/40°C	<i>Base</i>		

KEY: RP= Rust protection, WP= Wear protection, EP= Extreme pressure, V.I.I = Viscosity Index Improver

2.2 Composition of dangerous components (substances and preparations)

2.2.1 Name

For every single component, indicate the correct chemical name of substance as classified in Annex I of Directive no. 67/548/CEE and all following adjustment or of the chemical group if it is a not classified substance.

2.2.2 Quantities

Give the quantities of each single dangerous component or of each component not covered by the Directive for which there are Community exposure limits (even if lower than the product classification level), giving one of the following sizes:

- range (for example 2÷3 %)
- maximum value (e.g. max. value=3%)
- higher limit (e.g. <3%)
- a combination of the above sizes

The value must not be too vague (e.g. value < 50%).

Indicate the presence of sensitizing substances (R 43) even if present in a concentration range of between 0.1% and 1%.

2.2.3 Symbol

You can just include the symbol (e.g. Xi, Xn, etc.) without description.

2.2.4 Risk phrases

The risk phrases, besides the number reference, can also be accompanied by the whole sentence identifying the risk. If there is not enough space, you can just include the reference number if the relative key in heading 16 is also included.

2.2.5 Reference numbers

It must be included the EINECS or ELINCS numbers. The CAS number (if existing) and the IUPAC denomination (if available) can be useful.

As far as the information regarding the non dangerous aspects of the refined oil base is concerned, you can:

- give a complete indication in this section
- indicate that further information can be found in heading 16
- give all information in heading 16 directly.

Here a typical sentence to be used:

- "The DMSO extract value of used mineral base oils is less than 3% (determined through the IP 346 method). They are therefore classified as not carcinogenic according to note L of Directive 94/69/EC (first introduced with the 21st ATP of Directive 67/548)".

Heading 3 Hazards Identification

Legislation:

Indications included in **Directive 2001/58/EC** - Heading 3

Give here the classification of the substance or preparation which arises from application of the classification rules in Directives 67/548/EEC or 1999/45/EC. Indicate clearly and briefly the hazards the substance or preparation presents to man and the environment.

Distinguish clearly between preparations which are classified as dangerous and preparations which are not classified as dangerous according to Directive 1999/45/EC.

Describe the most important adverse physicochemical, human health and environmental effects and symptoms relating to the uses and possible misuses of the substance or preparation that can reasonably be foreseen.

It may be necessary to mention other hazards, such as dustiness, suffocation, freezing or environmental effects such as hazards to soil-dwelling organisms, etc., which do not result in classification but which may contribute to the overall hazards of the material.

The information shown on the label should be given under heading 15.

General information

This heading only includes the risks definitely connected to the reasonably foreseeable use of a lubricant, regarding effects determined by contact with the preparation or by swallowing or breathing it. These indications are always necessary, but must not be considered exhaustive; in fact, any other specific risks coming from the presence of particular substances or compounds must be indicated.

Indications for compilation:

3.1 Hazards identification

The following sentences can be used as an example:

Preparations classified as dangerous:

- The product is classified as dangerous (irritant, harmful, flammable, etc.) – Also see heading 11.
 - If the product is classified R 36/38*
 - Long term contact with the product (and its water emulsion for the pertinent products) can irritate skin and eyes
 - If the product is not classified R 36/38 and contains mineral oil*
 - Direct long term contact could cause irritation to eyes and skin
 - If the product is classified as flammable or highly flammable*
 - The product is *flammable / highly flammable*
 - If the product is classified R 65*
 - If swallowed the product can cause lung damage
 - If the product is classified R 66*
 - Contact with the product can cause skin dryness or cracking
 - If the product is classified R 67*
 - The inhalation of the product can cause drowsiness and dizziness.

Preparations not classified as dangerous:

- The product is not classified as dangerous according to the legislation in force.
- The product is not dangerous for person (also see heading 11) or the environment (also see heading 12)
- The product contains sensitizing substances in a quantity lower than classification requirements (*when the product contains sensitizing substances in a concentration between 0.1 and 1%*)
- Direct long term contact could irritate eyes and skin

NB:

For water soluble MWF:

- Hazards indicated in heading 3 refer to the product how marketed. The hazard is lower if the product is used in water emulsion.

Heading 4 First aid measures

Legislation

Indications included in **Directive 2001/58/EC** - Heading 4

Describe the first-aid measures.

Specify first whether immediate medical attention is required.

The information on first aid must be brief and easy to understand by the victim, bystanders and first-aiders. The symptoms and effects should be briefly summarised. The instructions should indicate what is to be done on the spot in the case of an accident and whether delayed effects can be expected after exposure.

Subdivide the information according to the different routes of exposure, i.e. inhalation, skin and eye contact and ingestion, under different subheadings.

Indicate whether professional assistance by a doctor is needed or advisable.

For some substances or preparations it may be important to emphasise that special means to provide specific and immediate treatment must be available at the workplace.

General information

We have considered first aid measures normally possible in the workplace and needed after an accident or exposure to correctly used lubricants and similar, distinguishing between measures based on the product danger level.

Consulting a doctor should be assessed case by case; in this case we have decided to advise consulting a doctor for all products classified as dangerous (only for important exposure cases), as a precaution. For not dangerous products, consulting a doctor is advised only for lasting effects.

An exception was made for the effects due to swallowing or over-exposure to vapors, for the risk of breathing into the lungs and for the psychological effect on the person after this kind of accident.

No mention has been made of delayed effects as they are not usually foreseen with the products in question.

The indications mentioned in this section are always necessary, but must not be considered exhaustive; any special safety requirement coming from particular substances or compounds must be indicated.

Heading 4

First aid measures

Indications for compilation:

First aid measures:

4.1. Eyes:

If the product is corrosive or irritant for the eyes:

- Rinse immediately with plenty of water for a long time holding open eyelid and seek medical advice

If the product is harmful/toxic for skin contact:

- Rinse immediately with plenty of water for a long time holding open eyelid and seek medical advice

If the product is not dangerous for the eyes:

- Rinse immediately with plenty of water for a long time holding open eyelid. Seek medical advice if the pain and redness persists.

4.2. Skin:

If the product is corrosive, irritant, toxic or harmful for the skin or it's classified with R 66:

- Take off immediately all contaminated clothing and wash with plenty of soap and water. Consult a doctor if necessary.

If the product is not dangerous for the skin:

- Take off immediately all contaminated clothing and wash with plenty of soap and water

If the product is used in high pressure equipment:

- When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop.

General warning:

- During accidents with pipes under pressure and similar, any substance can accidentally be injected into tissues under the skin, even without apparent surface damage. In that case, the injured person must be taken to hospital immediately for suitable care.
- High pressure injection injuries require prompt surgical intervention and possibly steroid therapy, to minimise tissue damage and loss of function.

4.3. Inhalation:

If the product is dangerous for inhalation (irritant, toxic, harmful):

- If exposed to high concentration of vapours and mists, take the person away from the contaminated area to a well ventilated area and send for a doctor.

If the product is not dangerous for inhalation:

- If exposed to high concentration of vapours and mists, take the person away from the contaminated area to a well ventilated area and send for a doctor if necessary.

4.4. Ingestion:

- Do not cause the vomit in order to avoid aspiration of the substance through the respiratory tract. Consult for a doctor.

Heading 5 Fire-fighting measures

Legislation:

Indications included in **Directive 2001/58/EC** – Heading 5

Refer to requirements for fighting a fire caused by the substance or preparation, or arising in its vicinity by indicating:

- suitable extinguishing media,
- extinguishing media which must not be used for safety reasons,
- special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases,
- special protective equipment for fire-fighters

Indications for compilation:

5.1 Suitable extinguishing devices

- Use extinguishing devices for class B fires: carbon dioxide, dry chemical powder, foam, sprayed water, sand, earth.

5.2 Extinguishing devices not to be used

- Avoid using water jets. Only use water jets to cool surfaces of containers exposed to fire

5.3 Specific exposure hazards

- Avoid breathing combustion fumes because a fire produces compounds of chlorine, sulphur, nitrogen... (specify which combustion sub-products form), unburned hydrocarbons and other potentially dangerous derivatives.

Note:

Cool with water the containers not involved in the fire but exposed to heat, to avoid explosions and the propagation of the fire.

5.4 Special equipment for fire-fighters

- Complete protective clothing with breathing apparatus.

Heading 6 Accidental Release Measures

Legislation

Indications included in **Directive 2001/58/EC** – Heading 6

Depending on the substance or preparation involved, information may be needed on:

- personal precautions such as:
 - removal of ignition sources, provision for sufficient ventilation/respiratory protection, control of dust, prevention of skin and eye contact,
- environmental precautions such as:
 - keeping away from drains, surface- and ground-water and soil, possible need to alert the neighbourhood,
- methods for cleaning up such as:
 - use of absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.),
 - reduction of gases/fumes with water, dilution.

Also consider the need for indications such as: "never use, neutralise with ...".

Note

If appropriate refer to sections 8 and 13.

General information:

In this section we wanted to highlight that the main risk for lubricants and similar products is the environmental pollution, in particular for MWF, as many of them are easily water soluble; for individual equipment we wanted to highlight the need to protect eyes and skin, referring to what could be indicated in headings 8 and 13 for specific cases.

Indications for compilation:

6.1 Individual precaution (also refer to heading 8)

- Avoid contact with skin and eyes by wearing suitable protective clothing.
- If great quantities are poured out, especially in a confined space, avoid breathing the vapours by airing the place or wearing suitable respiratory protective equipment (*only for highly volatile products*)

6.2 Environmental precautions

- Avoid the product being dispersed or flowing into the ground, the sewers and surface waters. If necessary inform competent local authorities.

6.3 Cleaning and collection methods

Dyke great leakages of product. Contain the spreading of small product quantities with earth, sand or other inert absorbent material. Transfer the waste into suitable impermeable containers, able to store and transport the material collected. Dispose of it according to the legislation in force.

When pertinent (e.g. when the product is contained in pressure containers or circuits) indicate – if accidental leakage should occur – the danger of aerosols forming that could, under specific conditions, catch fire.

Heading 7 HANDLING AND STORAGE

Legislation

Indications included in **Directive 2001/58/EC** – Heading 7

7. HANDLING AND STORAGE

Note - Information in this section should relate to the protection of health, safety and the environment. It should assist the employer in devising suitable working procedures and organisational measures according to Article 5 of Directive 98/24/EC.

7.1. Handling

Specify precautions for safe handling including advice on technical measures such as: containment, local and general ventilation, measures to prevent aerosol and dust generation and fire, measures required to protect the environment (e.g. use of filters or scrubbers on exhaust ventilation, use in a bunded area, measures for collection and disposal of spillages, etc.) and any specific requirements or rules relating to the substance or preparation (e.g. procedures or equipment which are prohibited or recommended) and if possible give a brief description.

7.2. Storage

Specify the conditions for safe storage such as: specific design for storage rooms or vessels (including retention walls and ventilation), incompatible materials, conditions of storage (temperature and humidity limit/range, light, inert gas, etc.), special electrical equipment and prevention of static electricity.

Give advice if relevant on quantity limits under storage conditions. In particular indicate any special requirements such as the type of material used in the packaging/containers of the substance or preparation.

7.3 Specific use(s)

For end products designed for specific use(s), recommendations should refer to the intended use(s) and be detailed and operational. If possible, reference should be made to industry - or sector - specific approved guidance.

General information:

Normally there are no special recommendations for this category of product; however, it should be said that it is always a good thing to avoid direct contact with the product, for example during transfer operations; the original stopped containers not only assure correct maintenance of the product characteristics, but also reduce the risk of spilling and contact; we wanted to bring attention on correct storage management, sometimes mistakenly underestimated.

Indications for compilation:

7.1 Handling:

- Avoid direct contact with product.
- Avoid breathing aerosols or vapours of product, assuring a correct ventilation of the working place, especially if this latter is restricted.
- Do not smoke or use flames; avoid contact with sparks or possible sources of ignition; do not keep open vessels in the workplace, to avoid high concentration of vapours. (FOR FLAMMABLE PREPARATIONS)

7.2 Storage:

- Keep the product in its original containers, stored in an environment and under conditions that assure control and containment of leakage. Store in a cool place, far from heat sources or of possible ignition source and from direct exposure to sunrays. Avoid accumulating electrostatic charges. Keep containers tightly closed. Assure adequate ventilation of premises.

Heading 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Legislation

Indications included in **Directive 2001/58/EC** – Heading 8

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure limit values

Specify currently applicable specific control parameters including occupational exposure limit values and/or biological limit values. Values should be given for the Member State where the substance or preparation is placed on the market. Give information on currently recommended monitoring procedures.

For preparations, it is useful to provide values for those constituent substances which are required to be listed in the safety data sheet according to heading 2.

8.2. Exposure controls. For the purposes of this document exposure control means the full range of specific protection and prevention measures to be taken during use in order to minimise worker and environmental exposure.

8.2.1 Occupational exposure controls. This information will be taken into account by the employer in carrying out an assessment of risk to the health and safety of workers for the substance or preparation under Article 4 of Directive 98/24/EC, which requires the design of appropriate work processes and engineering controls, the use of adequate equipment and materials, the application of collective protection measures at source, and finally the use of individual protection measures, such as personal protection equipment. Therefore provide suitable and adequate information on these measures to enable a proper risk assessment to be carried out under Article 4 of Directive 98/24/EC. This information should complement that already given under heading 7.1.

Where personal protection is needed, specify in detail which equipment will provide adequate and suitable protection. Take into account Council Directive 89/686/EEC(1) and make reference to the appropriate CEN standards.

8.2.1.1 Respiratory protection. For dangerous gases, vapours or dust, specify the type of protective equipment to be used, such as self contained breathing apparatus, adequate masks and filters.

8.2.1.2 Hand protection. Specify clearly the type of gloves to be worn when handling the substance or preparation, including: the type of material, the breakthrough time of the glove material, with regard to the amount and duration of dermal exposure. If necessary indicate any additional hand protection measures.

8.2.1.3 Eye protection. Specify the type of eye protection equipment required such as: safety glasses, safety goggles, face shield.

8.2.1.4 Skin protection. If it is necessary to protect a part of the body other than the hands, specify the type and quality of protection equipment required, such as: apron, boots and full protective suit. If necessary, indicate any additional skin protection measures and specific hygiene measures.

8.2.2. Environmental exposure controls. Specify the information required by the employer to fulfil his commitments under Community environmental protection legislation.

General information:

In the normal use of MWF (employed in relevant quantities and often in a restricted space) and for the conditions usually found in the workplace, we want to bring attention to the main problem, i.e. the control over the mist and aerosol formation, before applying suitable technical measures and after with protection equipments. We also wanted to underline that it is always necessary, for the specific nature of products (whether they are to be used as supplied or in emulsion with water) and of their use, to protect the hands and skin of workers by using protection equipments supported by suitable staff training on the correct use of personal protection and on the need for a correct personal hygiene.

The indications in this section are always necessary, but should not be considered exhaustive; in fact, any further specific action, needed for risks coming from the presence of particular substances or compounds must be indicated.

(1) OJ L 399, 30.12.1989, p. 18

Heading 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Indications for compilation:

8.0 Exposure limit values

If they exist, mention the exposure limits indicated by the national or community laws or, if they do not exist, indicated by ACGIH ⁽¹⁻²⁾ for all substances (updates are available from the technical-scientific Central Management of Federchimica).

8.1 Technical measures

For MWF, drawing fluids, highly volatile fluids and for any situation in which sprayable products are used:

- Avoid mist and aerosol production and their diffusion by screening the machines (if suitable) and by using localized ventilation/aspiration.

For all other cases:

- No action under normal use conditions

8.2 Individual protection

8.2.1 Breathing protection

- If the operational mode and other means to limit worker exposure are not adequate – in respect of the exposure limits if specified in heading 8.0 – other measures to protect the human breathing apparatus are needed: gas masks with organic vapour cartridge and for dusts/mists (e.g. mask with charcoal filter).

8.2.2 Hand protection

- Wear work gloves (e.g. in neoprene, nitrile or PVC), preferably plush-lined, resistant to mineral oils or solvents. Gloves must be replaced at first signs of wear. Put on gloves after washing hands carefully.
- When contact is not prolonged, the use of barrier creams can be a useful protection instrument.
- The choice of protective gloves also depends on use conditions and must follow manufacturer indications.
- For further information, refer to UNI EN 374-1, 374-2, 374-3 norms

8.2.3 Eye protection

- Wear safety goggles when contact with the product is possible
- For further information, refer to UNI EN 166 norm

8.2.4 Skin protection

- Wear overalls or aprons made of a suitable material; change immediately contaminated clothing and wash it carefully before using it again.
- Good personal and work clothing hygiene is important.
- For further information refer to UNI EN 465, 466, 467 norms

- (1) 2001 TLVs® and BEIs® ACGIH Publication
#0101 ACGIH (publisher) ISBN: 1-882417-40-2 Copyright © 2001 192 pages
- (2) ACGIH = American Conference of Governmental Industrial Hygienists

Heading 9 PHYSICAL AND CHEMICALS PROPERTIES

Legislation

Indications included in **Directive 2001/58/EC** – Heading 9

- 9 PHYSICAL AND CHEMICAL PROPERTIES. To enable proper control measures to be taken, provide all relevant information on the substance or preparation, particularly the information listed under heading 9.2.
- 9.1. General information.
Appearance. Indicate the physical state (solid, liquid, gas) and the colour of the substance or preparation as supplied.
Odour. If odour is perceptible, give a brief description of it.
- 9.2. Important health, safety and environmental information
- pH: indicate the pH of the substance or preparation as supplied or of an aqueous solution; in the latter case, indicate the concentration;
 - Boiling point/range;
 - Flash point;
 - Flammability (solid, gas);
 - Explosive properties;
 - Oxidising properties;
 - Vapour pressure;
 - Relative density;
 - Solubility; water solubility; fat solubility (solvent - oil to be specified);
 - Partition coefficient: n-octanol/water;
 - Viscosity;
 - Vapour density;
 - Evaporation rate.
- 9.3.1 Other information. Indicate other important safety parameters, such as, miscibility, conductivity, melting point/melting range, gas group (useful for European Parliament and Council Directive 94/9/EC)(1), auto-ignition temperature etc.

Note 1 - The above properties should be determined in accordance with the specifications of Part A of Annex V to Directive 67/548/EEC or any other comparable method.

Note 2 - For preparations, information should normally be given on the properties of the preparation itself. However, if it is stated that a particular hazard does not apply, clearly differentiate between cases where no information is available to the classifier, and cases where negative test results are available. If it is considered necessary to give information about the properties of individual components, please indicate clearly what the data refers to.

General information:

Data included in this point must be considered exhaustive for a safe management of lubricants normally available on the market; other data should be specified in presence of particular substances or compounds or of specific physical properties.

(1) OJ L 100, 19.04.1994, p. 1

Heading 9 PHYSICAL AND CHEMICALS PROPERTIES

Indications for compilation:

Concerning characteristics included in Directive 2001/58/EC, the following must be included:

- Appearance
- pH at 3% in distilled water
- Odour
- Water solubility
- Flash point
- Initial boiling point (at atmospheric pressure) – give the one of the component with the lowest point
- Relative density (exact value or range)
- Viscosity at 40°C
- Pour point
- Penetration
- Dropping point

For each characteristic you should also indicate the used method and the unit of measurement.

If a value is not available include N.A.. If a characteristic is not applicable or pertinent, you can also put N.A. or eliminate the item/s directly.

Heading 10 STABILITY AND REACTIVITY

Legislation

Indications included in **Directive 2001/58/EC** – Heading 10

10. STABILITY AND REACTIVITY

State the stability of the substance or preparation and the possibility of hazardous reactions occurring under certain conditions of use and also if released into the environment.

- 10.1. Conditions to avoid. List those conditions such as temperature, pressure, light, shock, etc., which may cause a dangerous reaction and if possible give a brief description.
- 10.2. Materials to avoid. List materials such as water, air, acids, bases, oxidising agents or any other specific substance which may cause a dangerous reaction and if possible give a brief description.
- 10.3. Hazardous decomposition products. List hazardous materials produced in dangerous amounts upon decomposition.

Note - Address specifically:

- the need for and the presence of stabilisers;
- the possibility of a hazardous exothermic reaction;
- safety significance, if any, of a change in physical appearance of the substance or preparation;
- hazardous decomposition products, if any, formed upon contact with water;
- possibility of degradation to unstable products.

General information:

Data included in this point must be considered exhaustive for a safe management of lubricants normally available on the market; other data should be specified in presence of particular substances or compounds or of specific physical properties. Specify any conditions to be avoided and any dangerous decomposition products, if significant.

Indications for compilation:

10.1 Reactivity

- Avoid contact with strong acids and bases and oxidising agents.

10.2 Stability

- Product stable at room temperature.

Heading 11 TOXICOLOGICAL INFORMATION

Legislation

Indications included in **Directive 2001/58/EC** – Heading 11

11. TOXICOLOGICAL INFORMATION

This section deals with the need for a concise but complete and comprehensible description of the various toxicological (health) effects which can arise if the user comes into contact with the substance or preparation.

Include dangerous-to-health effects from exposure to the substance or preparation, based on both experiences and conclusions from scientific experiments. Include information on the different routes of exposure (inhalation, ingestion, skin and eye contact), and describe the symptoms related to the physical, chemical and toxicological characteristics. Include known delayed and immediate effects and also chronic effects from short- and long-term exposure: for example sensitisation, narcosis, carcinogenicity, mutagenicity and reproductive toxicity (developmental toxicity and fertility).

Taking account of the information already provided under heading 2, Composition/information on ingredients, it may be necessary to make reference to specific health effects of certain components in preparations.

General information:

The toxicological information given in this section is mainly based on effects caused by mineral oils, in particular for what concerns inhalation, ingestion and skin contact effects. These can be considered exhaustive to describe possible toxicological effects of lubricants normally available on the market; other data should be specified in presence of specific dangerous substances or compounds.

On drafting this section, it has been considered that most MWF (even those not classified as dangerous) form water emulsions with high pH, with consequent irritating effects.

Delayed or immediate effects (like sensitisation, carcinogenicity, mutagenicity, reproductive toxicity, teratogen, narcosis) are not normally found.

Indications for compilation:

11.1 By inhalation

- Prolonged exposure to vapours or mists of product may cause irritation of the breathing apparatus.

If the product contains a substance with R 67 risk-phrase

- Prolonged exposure to product may cause drowsiness and dizziness.

11.2 By swallowing

For products that are not dangerous if swallowed

- If swallowed, the product may irritate the digestive apparatus causing vomit, nausea and diarrhoea.

For products subject to R 65 risk-phrase

- The main risk connected to product ingestion is its aspiration into lungs (also following spontaneous vomiting). In this case, serious lung damages can happen.

11.3 By contact with skin

For products that are not dangerous for the skin

- Frequent and prolonged contacts may degrease and irritate the skin, also causing dermatitis.

For irritating products

- Irritating to skin.

For products subject to R 66 risk-phrase

- Contacts with the product can cause skin dryness.

For products classified as sensitizing for the skin with R 43

- It may cause sensitization by skin contact.

For products with a quantity of sensitizing substances lower than what is necessary to classification (in concentration between 0.1 and 1%)

- Though containing sensitizing substances, the product is not classified in this way.

General warning

- High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed.

11.4 By eye contact

For products that are not dangerous for the eyes

- It may cause slight irritation.

If irritant or corrosive for the eyes (R36 or R41)

- It causes eye irritation / serious damage to eyes.

If irritating for the skin

- Repeated contacts can cause irritation.

Heading 12 ECOLOGICAL INFORMATION

Legislation

Indications included in **Directive 2001/58/EC** – Heading 12

12. Ecological information

Describe the possible effects, behaviour and environmental fate of the substance or preparation in air, water and/or soil. Where available, give relevant test data (e.g. LC50 fish <= 1 mg/l).

Describe the most important characteristics likely to have an effect on the environment owing to the nature of the substance or preparation and likely methods of use. Information of the same kind shall be supplied for dangerous products arising from the degradation of substances and preparations. This may include the following:

12.1 Ecotoxicity

This should include relevant available data on aquatic toxicity, both acute and chronic for fish, daphnia, algae and other aquatic plant. In addition, toxicity data on soil micro- and macro-organisms and other environmentally relevant organisms, such as birds, bees and plants, should be included when available. Where the substance or preparation has inhibitory effects on the activity of micro-organisms, the possible impact on sewage treatment plants should be mentioned.

12.2. Mobility

Relevant data might include:

- known or predicted distribution to environmental compartments,
- surface tension,
- absorption/desorption.

For other physicochemical properties see heading 9.

12.3. Persistence and degradability

The potential of the substance or the appropriate constituents of a preparation(1) to degrade in relevant environmental media, either through biodegradation or other processes such as oxidation or hydrolysis. Degradation half lives should be quoted where available. The potential of the substance or appropriate constituents of a preparation(7) to degrade in sewage treatment plants should also be mentioned.

12.4. Bioaccumulative potential

The potential of the substance or the appropriate constituents of a preparation(1) to accumulate in biota and pass through the food chain, with reference to the K_{ow} and BCF, if available.

12.5. Other adverse effects

If available, include information on any other adverse effects on the environment, e.g. ozone depletion potential, photochemical ozone creation potential and/or global warming potential.

Remarks

Ensure that information relevant to the environment is provided under other headings of the safety data sheet, especially advice for controlled release, accidental release measures, transport and disposal considerations under headings 6, 7, 13, 14 and 15.

- (1) This information cannot be given for the preparation because it is substance specific. It should therefore be given, where available and appropriate, for each constituent substance in the preparation which is required to be listed in the safety data sheet according to the rules under heading 2 of this Annex.

General information

The information given in this point can be considered exhaustive for lubricant environmental management; it is enough to highlight that said products are generally scarcely biodegradable and pollute the environment; the risk represented by water soluble MWF is particularly important as they can spread rapidly in the environment.

Other data should be specified in the presence of substances classified as dangerous for the environment, giving the specific negative effects caused by their presence.

Heading 12 Ecological information

Indications for compilation:

When the preparation is made by substances dangerous for the environment in considerable amounts, you must include (especially for points 12.4 and 12.5) the information contained in the supplier's SDS.

12.1 Degradability

Insert the pertinent sentence

- Based on available information the product is not readily biodegradable (R53).
- Though not classified as dangerous for the environment, it thinks that the product is not readily biodegradable
- The product is readily biodegradable.
- The product is biodegradable at ...% (give method).

12.2 Mobility

For soluble products:

- The product is easily dispersed in water.
- The product is easily dispersed into the ground.

For high volatility products not soluble in water:

- The product floats on water (if density is <1)
- The product sinks in water (if density is >1)
- The product is easily adsorbed by the ground
- The product evaporates and is easily dispersed in the air.

For low volatility products not soluble in water:

- The product floats on water (if density is <1)
- The product sinks in water (if density is >1)
- The product is adsorbed superficially by the ground
- The product evaporates with difficulty.

12.3 Accumulation

12.4 Eco-toxicity

Other negative effects

Heading 13 Disposal considerations

Legislation

Indications included in **Directive 2001/58/EC** – Heading 13

13. DISPOSAL CONSIDERATIONS

If the disposal of the substance or preparation (surplus or waste resulting from the foreseeable use) presents a danger, a description of these residues and information on their safe handling shall be given.

Specify the appropriate methods of disposal of both the substance or preparation and any contaminated packaging (incineration, recycling, landfilling, etc.).

Note

Refer to any relevant Community provisions relating to waste. In their absence, it is useful to remind the user that national or regional provisions may be in force.

General information

*The used lubricants are classified as dangerous waste by the **Directive 2001/118/EC**, in this way must be managed from an administrative, storage and handling point of view; the special legislation on this kind of waste (that imposes in Italy a collection regulated by the *Consorzio Obbligatorio degli Oli Usati*) allows an easy solution of the problem in most cases.*

The EWC codes have not been included as classification is not always univocal, but depends on many variable factors.

Indications for compilation:

- Do not discharge in sewers, underground passages or waterways. Respect the laws in force.
- Dispose of exhausted products (and emulsions for water soluble MWF) and containers according to local or national legislations through an authorized waste disposal contractor.

Heading 14 TRANSPORT INFORMATION

Legislation

Indications included in **Directive 2001/58/EC** – Heading 14

14. TRANSPORT INFORMATION

Indicate any special precautions which a user needs to be aware of or needs to comply with in connection with transport or conveyance either within or outside his premises.

Where relevant, provide information on the transport classification for each of the modal regulations: IMDG (sea), ADR (road, Council Directive 94/55/EC (1)), RID (rail, Council Directive 96/49/EC (2)), ICAO/IATA (air).

This might include *inter alia*:

- UN number,
- class,
- proper shipping name,
- packing group,
- marine pollutant,
- other applicable information.

General information

Products in commerce are generally not classified as dangerous for transport, except for those classified as flammable, corrosive or dangerous for environment; all additional information should be added when the preparations are classified by the different technical norms indicated. If the product is not classified as dangerous for one or more of the transport regulations, put "Not classified as dangerous", eliminating the detailed information in the following box.

Indications for compilation:

LAND (Rail, road as RID/ADR)

RID/ADR class

Danger identification number

Substance identification number (no. UN)

Classification code

Packing group

Danger labeling

Limited quantity per transport unit (1.1.3.6. ADR)

Limited quantity per package unit (3.4 ADR)

Transport document

Product tremcard

SEA TRANSPORT (IMO/ IMDG code)

IMO class

UN number

EMS

Sea pollutant

Labeling

Packing group

Secondary (i) risk(i)

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Class/Division

Packing instructions for cargo and passenger planes

Packing instructions / max. net quantity per package

Packing instructions for limited quantities / max. net quantity per package

Packing instructions for cargo planes/ max. net quantity per item package

Heading 15 Regulatory information

Legislation

Indications included in **Directive 2001/58/EC** – Heading 15

15. REGULATORY INFORMATION

Give the health, safety and environmental information shown on the label according to Directives 67/548/EEC and 1999/45/EC.

If the substance or preparation covered by this safety data sheet is the subject of specific provisions in relation to protection of man or the environment at Community level (e.g. restrictions on marketing and use set out in Council Directive 76/769/EEC(11)) these provisions should, as far as is possible, be stated.

Also mention, where possible, the national laws which implement these provisions and any other national measures that may be relevant.

General information

Consider article 10 points 2.3.3 and 2.3.4. of 1999/45/EC to report the dangerous substances lead to product classification.

Indications for compilation:

The following indications must be given for dangerous preparations:

- EC classification
- Symbol
- Risk phrases (include number and description)
- Caution advices (include number and description)
- Contains:

- Applicable legislation:
- **Directive 89/391/EEC, 89/654/EEC, 89/655/EEC, 89/656/EEC, 90/269/EEC, 90/270/EEC, 90/394/EEC and 90/679/EEC** on improving the health and safety of workers in their workplace
- **Directive 98/24/EC** and all following updates, together with its national realization, about protection of worker safety and health against chemical agent risks
- **Directive 1999/45/EC** of the European Parliament and Council of 31 May 1999, Directive 2001/60/EC of the Commission of 7 August 2001 and all following updates, together with its national realization, concerning classification, packaging and labeling of dangerous preparations
- **Directive 2006/8/EC** of 23 January 2006 amending, for the purposes of their adaptation to technical progress, Annexes II, III and V to Directive 1999/45/EC of the European Parliament and of the Council concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations
- **Directive 2001/58/EC** and all following updates, together with its national realization, about safety data sheets
- **Directive 2001/59/EC** and all following updates, together with its national realization, about classification, packaging and labelling of dangerous substances (28th adjustment)
- **Directive 2004/73/EC** and all following - about classification, packaging and labelling of dangerous substances (29th adjustment)

Heading 16 OTHER INFORMATION

Legislation

Indications included in **Directive 2001/58/EC** – Heading 16

16. OTHER INFORMATION

Indicate any other information which the supplier assesses as being of importance for the health and safety of the user and for the protection of the environment, for example:

- list of relevant R phrases. Write out the full text of any R phrases referred to under headings 2 and 3 of the safety data sheet,
- training advice,
- recommended restrictions on use (i.e. non-statutory recommendations by supplier),
- further information (written references and/or technical contact point),
- sources of key data used to compile the data sheet,
- for a revised safety data sheet, indicate clearly the information which has been added, deleted or revised (unless this has been indicated elsewhere).

Indications for compilation:

Insert the following when pertinent:

For dangerous preparations you can give the product code for the dangerous preparations archives of the Istituto Superiore di Sanità

- Do not use the product for uses that are not indicated. In this case, the user could be subject to unforeseen risks.
- Sheet conforming to Directive 2001/58/EC on the drawing up of SDS
- The information refers to the product as it is, while normal application foresees it being used in emulsion with water under%
- The information has been drafted to the best of our knowledge. It is for information purposes and is not a guarantee. The product is used under User control and it is their responsibility to adapt to the correct usage conditions indicated on the SDS and to adapt to suitable industrial hygiene practice. This document does not replace the chemical risk analysis which is the employer's complete responsibility.
- Referring to point 2.2.4 include the key to risk phrases.
You can include the sentence:
- This card was drawn up following the guidelines for drawing up SDS for lubricants drafted by the Group of Lubrication Industry Companies (Gail) – Website: <http://aispec.federchimica.it>

In addition to what is given, you must also include some general information:

1. In all SDS pages include the following:
 - SDS issuing date.
 - Page number and total pages

You can also include the date the document was printed.

For example

Issued:

Printed on:

Page 2/4

2. In order to help the user understand the variations introduced from a previous SDS, write the changes introduced in italics or in another way
3. Put the preparation name on all the SDS pages
4. If the company belongs to Gail, you can include the sentence:
The Company belongs to the Group of lubricating industry companies (Gail).

Example: SDS *Dangerous product*

This section includes an example of a SDS drawn up for a cooling lubricating fluid product based on the guidelines.



Safety Data Sheet: Emulsifiable A

Heading 1. Identification of the preparation and of the company

1.1 Product name: Emulsifiable A

1.2 Use/application: water soluble MWF for cutting applications, semi-synthetic bio-static for mechanical workings

1.3 Supplier: **1.3.1. Name:** ALFA SpA **1.3.2. Address:** Via Giovanni Rossi 1, 99999 Town (Province)

1.3.3. Tel.: ++39 000 999999 **1.3.4. Fax:** + 39 000 1111111

1.3.5. Anti-poison Centre telephone: + 39 000 2222222

Heading 2. Composition/Information on ingredients

2.1 Composition: mineral oil of a naphthene nature, alkane-lamide of fat acids, boric amides, long chain sulphonated alkyl aryls, rose ether, neodecanoic acid, boric acid, butyl diglycol, preservative agents (isothiazolinone derivatives in a lower percentage than 0.1%), fat acid soaps, water

2.2. Composition of dangerous components (substances and preparations)

Name	Quantitative %	Symbol	Risk phrases	Reference numbers
Neodecanoic acid	2.5 – 3.5	Xi, N	R 36, R 52/53	EINECS 248-093-9
Boric alkane-lamide	10.0 – 12.0	Xn	R 20, R 36/37/38	
2 ethanol butylcarbitol	5.0 – 8.0	Xi	R 36	EINECS 203-961-6
2 rose ether	4.5 – 6.0	Xn	R 22, R 36	EINECS 204-589-7

The DMSO extract value of used base mineral oils is less than 3% (determined through the IP 346 method). They are therefore classified as not carcinogen according to note L of Directive 94/69/EC (first introduced with the 21st Adjustment to Technical Progress of Directive 67/548/EC).

Please refer to point 16 for the complete key to risk sentences

Heading 3. Hazards identification

3.1 Hazards identification

The product is classified as dangerous (irritant). Also see heading 11.

Prolonged contact with the product and its water emulsions can irritate eyes and skin.

Hazards indicated in heading 3 refer to the product how marketed. The hazard is lower if the product is used in water emulsion.

Heading 4. First aid measures

4.1. Eyes:

Rinse immediately with plenty of water for a long time holding open eyelid and seek medical advice.

4.2. Skin:

Take off immediately all contaminated clothing and wash with plenty of soap and water.

General warning:

During accidents with pipes under pressure and similar, any substance, can accidentally be injected into tissues under the skin, even without apparent surface damage. In that case, the injured person must be taken to hospital immediately for suitable care.

4.3. Inhalation:

If exposed to high concentration of vapours and mists, take the person away from the contaminated area to a well ventilated area and send for a doctor if necessary.

4.4. Ingestion:

Do not cause the vomit to avoid aspiration into the respiratory tract of the substance. Send for a doctor.

Heading 5. Fire-fighting measures

5.1 Suitable extinguishing dispositives

Use extinguishing dispositives for class B fire: carbon dioxide, dry chemical powder, foam, sprayed water, sand, earth.

5.2 Extinguishing dispositives not to be used

Avoid using water jets. Only use water jets to cool the surface of containers exposed to fire.

5.3 Specific exposure hazards

Avoid breathing in combustion fumes because a fire produces compounds of sulphur, nitrogen, boron, unburned hydrocarbons and other potentially dangerous derivatives.

Note: Cool with water the containers not involved in the fire but exposed to heat, to avoid explosions and the propagation of the fire.

5.4 Special equipment for fire-fighters

Complete protective clothing with breathing apparatus.



Safety Data Sheet: Emulsifiable A

Heading 6. Accidental Release Measures

6.1 Individual precautions (also refer to heading 8)

Avoid contact with skin and eyes by wearing suitable protective clothing.

6.2 Environmental precautions

Avoid the product being dispersed or flowing into the ground, the sewers and surface waters. If necessary, inform competent local authorities.

6.3 Cleaning and collection methods

Dyke great leakages of product. Contain the spreading of small product quantities with earth, sand or other inert, absorbent material. Transfer the waste into suitable impermeable containers, able to store and transport the material collected. Dispose of it according to with the legislation in force.

Heading 7. Handling and storage

7.1 Handling:

Avoid direct contact with product.

Avoid breathing aerosols or vapours of product assuring a correct ventilation of the working place, especially if this latter is restricted.

7.2 Storage:

Keep the product in its original containers, stored in an environment and under conditions that assure control and containment of leakage. Store in a cool place, far from heat sources or of possible ignition source and from direct exposure to sunrays. Avoid accumulating electro-static charges. Keep containers tightly closed. Assure adequate ventilation of premises.

Heading 8. Exposure controls/personal protection

8.1 Exposure limit values

Exposure limits: TLV/TWA mineral oil 5 mg/cu m (ACGIH)
TLV/TWA 2 butyl-carbitol ethanol 180 mg/cu m (ACGIH).

8.1.1 Technical measures

Avoid mist and aerosol production and their diffusion by screening the machines (if suitable) and by using localized ventilation/aspiration.

8.2 Individual protection

8.2.1 Breathing protection

If the operational mode and other means to limit worker exposure are not adequate – in respect of the exposure limits specified in heading 8.0 – other measures to protect the human breathing apparatus are needed: gas masks with organic vapour cartridge and for dusts/mists (e.g. mask with charcoal filter).

8.2.2 Hand protection

Wear work gloves (e.g. in neoprene, nitrile or PVC) preferably plush-lined, resistant to mineral oils or solvents. Gloves must be replaced at first signs of wear. Put on gloves after washing hands carefully.

When contact is not prolonged, the use of barrier creams can be a useful protection instrument.

The choice of protective gloves also depends on use conditions and must follow manufacturer indications.

For further information, refer to CEN-EN 374 norm.

8.2.3 Eye protection

Wear safety goggles when contact with the product is possible.

For further information, refer to CEN -EN 166 norm.

8.2.4 Skin protection

Wear overalls or aprons made of a suitable material; change immediately contaminated clothing and wash it carefully before using it again.

Good personal and work clothing hygiene is important.

For further information, refer CEN -EN 465/466/467 norms.

Heading 9. Physical and chemicals properties

Appearance:	limpid liquid, amber coloured	
pH 3% in distilled water:	9.0 – 9.5	
Odour:	characteristic	
Water solubility:	easily soluble	
Flash point:	> 150°C	ASTM D 92
Initial boiling point:	100°C approx.	
Relative density:	1.020 – 1.060 kg/dm ³	ASTM D 1298
Viscosity at 40°C:	46 -68 mm ² /s	ASTM D 445
Pour point:	< -5 °C	ASTM D 97



Safety Data Sheet: Emulsifiable A

Heading 10. Stability and reactivity

10.1 Reactivity

Avoid contact with strong acids and bases, and oxidising agents.

10.2 Stability

Product stable at room temperature.

Heading 11. Toxicological information

11.1 By inhalation

Prolonged exposure to vapours or mists of product may cause irritation of the breathing apparatus.

11.2 By swallowing

If swallowed, the product may irritate the digestive apparatus causing vomit, nausea and diarrhoea.

11.3 By contact with skin

Frequent, and prolonged contacts may degrease and irritate the skin also causing dermatitis.

11.4 By eye contact

It causes eye irritation.

Heading 12. Ecological information

12.1 Degradability

Though not classified as dangerous for the environment, it thinks that the product is not readily biodegradable.

12.2 Mobility

The product is easily dispersed in water.

The product is easily dispersed into the ground.

Heading 13. Disposal considerations

Do not discharge in sewers, underground passages or waterways. Respect the laws in force.

Dispose of exhausted products, emulsion and containers according to local or national legislations through an authorized waste disposal contractor.

Heading 14. Transport information

LAND (Rail, road as RID/ADR) :	not classified as dangerous
SEA TRANSPORT (IMO/IMDG code):	not classified as dangerous
AIR TRANSPORT (ICAO/IATA):	not classified as dangerous



Safety Data Sheet: Emulsifiable A

Heading 15. Regulatory information

EC Classification: not dangerous dangerous

Symbol: Xi Irritant

Risk phrases: R 36 Irritating to eyes

Caution advices: S 25 Avoid contact with eyes
S 26 In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice

Contains: -

Applicable legislation:

Directive 2006/8/EC of 23 January 2006 amending, for the purposes of their adaptation to technical progress, Annexes II, III and V to Directive 1999/45/EC of the European Parliament and of the Council concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations.

Directives 2001/59/EC and 2004/73/EC, adapting to technical progress for the 28th and 29th time Council Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances; and following updates.

Directive 1999/45/EC of the European Parliament and Council of 31 May 1999; Directive 2001/60/EC of the Commission of 7 August 2001 and all following updates, together with its national realization, concerning classification, packaging and labelling of dangerous preparations.

Directive 2001/58/EC and all following updates, together with its national realization, about safety data sheets.

Directive 98/24/EC and all following updates, together with its national realization, about protection of worker safety and health against chemical agent risks.

Directives 89/391/EEC, 89/654/EEC, 89/655/EEC, 89/656/EEC, 90/269/EEC, 90/270/EEC, 90/394/EEC and 90/679/EEC on improving the health and safety of workers in their workplace.

Heading 16. Other information

Do not use the product for uses that are not indicated. In this case, the user could be subject to unforeseen risks.

Sheet conforming to Directive 2001/58/EC on the drawing up of SDS

The information refers to the product as it is, while normal application foresees it being used in emulsion with water under 10 %.

The information has been drafted to the best of our knowledge. It is for information purposes and is not a guarantee. The product is used under User control and it is their responsibility to adapt to the correct usage conditions indicated on the SDS and to adapt to suitable industrial hygiene practice. This document does not replace the chemical risk analysis which is the employer's complete responsibility.

This sheet was drawn up following the guidelines for drawing up SDS for lubricants drafted by the Group of Lubrication Industry Companies (Gail) – website: <http://www.aispec.it>

Key to risk phrases mentioned:

R 20 Harmful by inhalation

R 22 Harmful if swallowed

R 36 Irritating to eyes

R 36/37/38 Irritating to eyes, respiratory system and skin

R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

The company ALFA SpA belongs to the Group of Lubrication Industry Companies (Gail).